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ABSTRACT

Equity, quality, and cost in higher education is examined as it exists in Australia. The first chapter provides a broad overview, both current and historical, of the complex structure of higher education in Australia and identifies issues and concerns. Chapter 2 examines enrollment trends in different fields of study. The third chapter looks at educational access for disadvantaged groups such as Aboriginal students as well as issues involving gender and socioeconomic status. Further chapters examine: (1) the nature of post graduate study in Australia; (2) the debate over tuition and fees; (3) the use of inputs as a measure of higher education quality; and (4) assessing the processes at work in higher education (e.g., staff development and teaching and learning improvement) as an indication of the quality of an institution. In addition, three factors relating to the quality of education are discussed: student selectivity; instructional efficiency; and staffing rigidity. Finally, the study explores the following areas: higher education institution's role in research, continuing education, and community service; the unit costs of higher education in Australia; cost management issues; the problems of resource allocation and available financing; and higher education policy and its effect on equity, quality, and cost. Contains an index and 309 references. (GLR)

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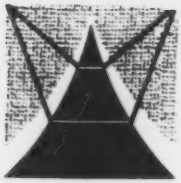

Regional Co-operative Programme
in Higher Education for Development
in Asia and the Pacific

Equity, Quality and Cost n Higher Education

search Study on Australia

Edited by
Neil Baumgart

IESCO PRINCIPAL REGIONAL OFFICE
FOR ASIA AND THE PACIFIC
Bangkok, 1987

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INTRODUCTION

This publication is an outcome of an inter-country research project on equity, quality and cost in higher education which was sponsored by UNESCO Principal Regional Office for Asia and the Pacific.

Within a framework provided by the UNESCO Regional Co-operative Programme in Higher Education for Development in Asia and the Pacific, three major programme areas have been identified. These are (1) innovation in higher education, (2) policy, planning and management of higher education, and (3) special research studies in higher education for development. Some seventy institutions and agencies, designated by participating governments, have formed a network to further the regional programme in higher education and are organised under three consortia corresponding to the three programme areas above.

The Consortium on Special Research Studies in Higher Education for Development held its initial meeting in Bangkok from 28 February to 5 March, 1983. The institution from Australia designated as a member of this consortium is Macquarie University, through its School of Education. The initial meeting of the Consortium proposed six possible research projects. The present study on equity, quality and cost in higher education is essentially an integration of three of the original proposals.

As a next step, a research design meeting convened jointly by UNESCO Principal Regional Office for Asia and the Pacific and the Korean Council for University Education was held in Seoul from 8 to 12 July, 1985. Participants from four countries – Australia, India, Indonesia and the Republic of Korea – and staff members from the UNESCO Principal Regional Office in Asia and the Pacific attended the meeting which drew up a detailed research proposal. The study was undertaken in Australia, India and the Republic of Korea.

Progress on the study was reviewed at a Review Meeting in Bangkok on 14 to 18 July, 1986. At this meeting, the format for

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separate country reports was agreed. This publication represents the final report from the study undertaken in Australia.

A Series of Seminars

It would not have been possible to conduct the Australian study by conventional means with one or two faculty members aided by a part-time research assistant undertaking the literature review, collecting data from both primary and secondary sources, analyzing and interpreting the data and preparing a final report. However, because several members of faculty had interests in higher education and a number of postgraduate students (some from Asian countries) wished to undertake coursework and research in the area, it was decided to offer an Invitational Seminar series on "Equity, Quality and Cost in Higher Education".

The seminar series was perceived to have a number of benefits. By allowing discussion and debate on the various issues, it promised to yield a more thoughtful final report. Also, it had the potential to provide training for students and a form of staff development for faculty members. By requiring designated seminar participants to prepare written papers in advance of the weekly meetings and then to redraft these papers following discussions in the seminar, it was possible to distribute the workload involved in writing a final report. On the negative side, the seminar series inevitably involved some inefficiency in tackling the research questions. Seminar members enjoyed their debate and the opportunity to follow matters of particular interest but not all such matters were central to the research questions. On balance, however, it was considered that the advantages of the seminar series far outweighed the disadvantages.

Seventeen people participated in the seminars – eight faculty members, seven postgraduate students, a Visiting Scholar and the Student Assistant who worked part-time on the project. Beginning March 6, 1986, the two-hour seminar sessions were held each week over a period of sixteen weeks. Six of the postgraduate students were formally enrolled in the seminar series and were therefore able to gain coursework credits for their participation. (The seventh student was nearing the completion of her Ph D programme, had completed all of her coursework requirements, and hence attended purely out of interest.)

Each week, one or two participants prepared and distributed papers in advance and then led the seminar discussion and debate on the issues. Following the seminar, these participants had the opportunity to revise their papers before submitting them to the Project Co-ordinator. These papers were then edited by the Co-ordinator and integrated into a final report. The contribution of participants who authored papers is acknowledged through the inclusion of their names on chapters.

Sources of Data

Three sources of data and other materials used in the study warrant mention.

Literature

In conjunction with the series of seminars, an annotated bibliography was compiled and the more important reports, statistical tables and selected other materials were made available for borrowing by participants. Most use was made of Australian literature which yielded a long list of relevant books, reports and articles but some use was made of overseas literature, particularly where it assisted in conceptualising the issues.

As a convenience for other researchers, the complete bibliography (although not annotated) is included in this report rather than just the references cited in the chapters.

Statistical Data Base

The study was able to draw on a number of comprehensive statistical reports as a basis for analyzing patterns and trends in higher education. In the *first* place, all institutions of higher education are required to complete annual returns for the Commonwealth Tertiary Education Commission (CTEC) with data on enrolments (new and continuing), courses, fields of study, student characteristics (type of enrolment, sex, age), staff and staff characteristics (age, sex, level of appointment), and financial resources and their allocation to different activities (research, library, salaries etc.). All of these variables are clearly defined in operational terms and CTEC is able to compile a comprehensive computerised data base from which a yearly publication with selected tabulations and cross-tabulations is

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published. These annual publications formed a very important basis for the present study.

Secondly, CTEC produce triennial reports which recommend to government funding levels and activities in higher education for the next three years. These reports review trends and examine future prospects and in so doing interpret data derived from the data base described above. Hence these triennial reports were also of vital importance to this study.

A *third* source of statistical data is the Australian Bureau of Statistics (ABS). This agency, working from the CTEC data base, produces its own publications with somewhat different cross-tabulations and, until recently, sometimes using different categories for classification (for example, of field of study). While the present study was in operation, ABS published a valume entitled "Tertiary Education in Australia 1984". A major advantage of this publication was that, for the first time, it compiled trend data over a ten-year period. This volume proved so useful that copies were purchased for all seminar participants to use as a source book.

A *fourth* source of statistical data is each institution of higher education which produces its own annual statistical digest.

Interviews

It had been planned to conduct interviews with key policy makers (for example, CTEC officials), administrators and researchers particularly on deliberate strategies employed to translate policy matters on equity, quality and cost into actions; the impact and effectiveness of the strategies; any unintended outcomes which resulted; and scenarios for future policy decisions.

Fortuitously, a conference on "Productivity in Tertiary Education: Issues for Excellence and Equity" had been organised at Darling Downs College of Advanced Education (CAE) for July, 1986. Since people with whom interviews had been planned were attending this conference, five seminar participants attended the conference as well and conducted the interviews at this venue.

Organisation of This Report

The chapters in this report are based on material considered at the seminars. The chapters have been authored by seminar

participants and edited by the project Co-ordinator. The sequence of chapters does not follow the numerical order of research questions in the Research Design document drawn up at the Seoul meeting.

Difficulties and Limitations

One difficulty which faced the Australian study was the volume of material available in Australia on the key concepts in the study – equity, quality and cost (see Bibliography). In the seminars, some selectivity was necessary and this was clearly influenced by the interests of participants. A different group may have highlighted other issues or problems and hence this represents one limitation of the study.

A *second* difficulty was encountered with the statistical data base. Statistics prepared by CTEC did not always accord with those published by the Australian Bureau of Statistics (ABS), because somewhat different definitions were used or because different categories were employed. These discrepancies are fairly minor ones and do not affect overall conclusions. Moreover, from 1986, both agencies will use a common form of reporting. However, readers are warned that, if the statistics reported in this study do not always correspond exactly to those in other reports, this is probably explained by their different origins. A further complication in interpreting trend statistics stems from the merger of some institutions across sectors in the early 1980s.

The relatively high proportion of part-time students in Australia (around 40 per cent in universities and over 50 per cent in CAEs) needs to be borne in mind when statistics are interpreted. For example, some cross-national comparisons of participation rates are based on full-time enrolments. Clearly, such comparisons underestimate participation in Australian higher education. Conversely, where enrolments are quoted as "numbers of students", the high proportion of part-time students tends to yield an inflated figure. One way to scale this back is to cite numbers of " equivalent full-time students", using an appropriate conversion formula. Every effort has been made to keep these distinctions clear and to interpret figures accordingly. However, these differences posed problems in reporting and interpreting statistical data in an unambiguous way – a *third* difficulty for the study.

Thanks

Many people have made valuable contributions to this research study. Special thanks are due to those faculty members and post-graduate students at Macquarie University who participated in and/or contributed papers to weekly seminars on the various research questions over a period of sixteen weeks; to Susan Philp whose diligence and competence as a part-time research assistant provided a sound basis for our work; to Dr. M. Selim, UNESCO Specialist in Higher Education, for his continual support and encouragement; to colleagues and co-researchers in other participating countries for their insights, constructive criticism and valued academic and social interaction during the life of the project; and to Ms Judy Faulkner for her efficient typing of the manuscript.

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Neil Baumgart
(Assoc. Professor and Project Co-ordinator,
School of Education,
Macquarie University)

Chapter One

THE HIGHER EDUCATION SYSTEM IN AUSTRALIA

Neil Baumgart and Alan Lindsay

The Structure of Higher Education

Australia has three main types of institutions offering formal education beyond secondary school:

(a) Universities, of which there are 19, enrolling about 175,000 students in 1985;

(b) Colleges of Advanced Education (CAEs), of which there are 45, enrolling about 184,000 students in 1985; and

(c) Institutes of Technical and Further Education (TAFE), of which there are more than 1200 colleges or centres, enrolling more than 800,000 students, 90 per cent of whom are part time, in vocational and preparatory courses. (TAFE colleges also provide for a further 400,000 plus students in adult education courses offering handicrafts, hobbies, self-expression and cultural appreciation and for which fees are intended to cover recurrent costs.)

These are all grouped under the label of "tertiary education" with the term "higher education" – the focus of the present study – being used to refer to the first two categories of universities and CAEs.

The Control and Planning of Higher Education

National-level control and co-ordination of the system is exercised through the Commonwealth Tertiary Education System (CTEC) which was set up in 1977. Working principally through triennial reports, this agency recommends and administers Australian Government grants to the three sectors through three Councils, each responsible for one type of tertiary institution. There is virtually no private funding of higher education in Australia as all institutions are government supported. At the State level, each State exercises direct

control over TAFE through a centralised bureaucracy, and less direct control over the more autonomous universities and CAEs through a State co-ordinating agency or board.

The planning and development of tertiary education has not always proceeded smoothly. The three-part structure of tertiary education is unstable and not well defined. It has developed through a series of *ad hoc* initiatives, adaptations and compromises, rather than through systematic long-term planning. The machinery exists for systematic planning and co-ordination at the national level as CTEC has the responsibility for making triennial reports to government on trends, developments, initiatives and funding. Systematic data collection by CTEC includes annual statistical returns from institutions, special submissions and interviews with key personnel preceding the compilation of triennial reports, data from other sources including the Australian Bureau of Statistics, and reviews and evaluations on specific topics.

However, several factors have hindered effective planning. One major factor is the complex division of administrative and financial powers between the Commonwealth and the States, and between governments and the individual institutions. The "rights" of States are jealously guarded but their opportunities for new initiatives are curbed since most revenue for the States is obtained through sharing of nationally collected taxes according to a formula determined by the Commonwealth. The *major* responsibility for primary and secondary schooling resides with the States although, over the past 15 years in particular, the Commonwealth has sought to influence practices in both government and non-government schools through policies of the Commonwealth Schools Commission, implemented with national government funding.

In contrast to primary and secondary education, tertiary education has become the major responsibility of the Commonwealth. Thus, the Commonwealth's financial contribution to tertiary education has grown from 20 per cent in the mid-1950s to more than 80 per cent by the mid-1980s. While this financial control has given the Commonwealth considerable power in determining policies, attempts to legitimate this power through committees of enquiry and statutory commissions have been less successful.

Conflicts over purposes, status and locus of control have particularly plagued the higher education level. Since the introduction of the "binary" structure of universities and CAEs in the 1960s, developments in both sectors have lessened the distinctions between the two types of institution. The major remaining differentiating feature is the emphasis given in universities to research and post-graduate training, supported with a loading on funding of about 20 per cent on a *per capita* basis over the funding of advanced education.

The Development of Higher Education in Historical Perspective

The present state of affairs of higher education in Australia is easier to understand if it is seen in an historical context. The development of the higher education system began with the six universities established in the State capitals during the second half of the nineteenth century. The university system then grew slowly until after the Second World War when the Commonwealth Government sponsored a rapid expansion, stemming from the need to train people for the professions and to undertake essential research. In a recent review of higher education in Australia since World War II, Anderson and Eaton (1982a, 1982b) found it convenient to divide the period from 1945 to 1982 into four time periods (approximately decades) in which different major themes characterised Australian higher education. These were

(a) 1945-1955 : post-war reconstruction
(b) 1956-1965 : rising expectations and expansion
(c) 1966-1975 : expansion and equality
(d) 1976-1982 : accountability and decline.

The *post-war reconstruction* period saw the national government taking an active part in supporting universities which had previously been solely the concern of the States. The policy emphasis during this period was on the identification of talent and on minimizing wastage. Part-time students had little access to higher education and much of the research on higher education at the time focused on providing effective selection procedures and maximizing graduation rates.

During the next period of *rising expectations*, participation rates began to increase markedly. Scholarships were provided by the Commonwealth Government on a competitive basis. The Murray

Report (1956) distinguished increases due to a population "bulge" from those due to a "trend" towards increased participation and gave prominence to the latter. Higher education began to be perceived as the means to a higher quality of life. Criticizing high failure rates in universities and noting the poor graduation rates for part-time students, the Murray Report argued for improvements to teaching and learning rather than the raising of entry standards or the imposition of stricter quotas. The research studies of this decade followed this theme with investigations of student motivation, social factors in the background of students, student welfare and study conditions, teaching methods and staff recruitment. Towards the end of this decade, the Martin Committee (1964) reported with recommendations for the establishment of a College of Advanced Education (CAE) sector providing high level vocational, mainly technical, education differing from university education in approach and area. This was subsequently interpreted as a *binary* system of higher education, with the national government assuming major responsibility and control.

The following decade, the period of *expansion and equality*, was marked by a large expansion with several new universities established but with their growth overshadowed by the rapid expansion in the CAE sector. Although it was intended that the CAEs would complement the universities by catering more for applied studies and for sub-degree (diploma) level study, they also provided the opportunity for many more young people to enter higher education. By 1968, 25 per cent of students in higher education were enrolled in CAEs, 66 per cent were in universities, and the remainder were in teachers' colleges under the control of the six state governments. In 1972, these teachers' colleges were incorporated into the CAE sector and by 1975 there were more than 80 CAEs. The research studies of this period showed the concern with equality of access to higher education. Numerous studies investigated participation rates and success in higher education for sub-groups of different sex, social class, age and ethnic background. Contrasts were also made between full-time, part-time internal and the rising proportions of part-time external students.

In keeping with the concern for equality of access to higher education, fees were abolished for higher education in 1974 and a system of financial assistance (Tertiary Education Assistance Scheme)

was introduced for students whose parents had lower incomes or who were self-supporting. Other initiatives stressed increased participation and equality of access. Thus a Committee of Inquiry into Poverty gave attention to the question of access to higher and further education; a report on schools (Australian Schools Commission, 1973) argued for equality of the educational process and recommended funding for schools on a "needs" basis and compensatory programmes for disadvantaged groups; and an investigation was conducted into the possibility of an Open University system (Karmel, 1974). External studies offered by some universities and colleges in Australia have had a unique role in offering higher education to people in distant geographic regions. On this occasion, an Open University was not introduced although opportunities for external study were expanded in universities and CAEs and most institutions provided an alternative mode of entry for mature age students able to demonstrate an ability to cope with formal study. From about 1973, the increase in participation rates for universities could almost entirely be explained by higher rates for mature age students (Borrie, Smith and Dilulio, 1978).

The middle of this period had also been a time of student activism with demands by students not only for participation in higher education but also for participation in decision-making. Attention was given to modes of assessment. Many institutions replaced final examinations with systems of continuous assessment. It was also during this period that a number of institutions created tertiary teaching "units" in an attempt to improve the *quality* of instruction (Johnson, 1982). Towards the end of this period and into the next, increased participation by women, mature age students, and postgraduate students, especially coursework master's degree students, were notable features. Research studies at this time were conducted into causes of drop-out, problems of sub-groups of students (mature age, females, ethnic minorities) and aspects of teaching, learning and assessment. The particular problems of overseas students studying in Australia also came under attention (Rao, 1976).

By 1976, the period of expansion was over and a period of *accountability and decline* followed. Higher education was now in a "steady state" or decline in funding levels, but not in student numbers, and had to compete for scarce resources with numerous

social welfare programmes. The problems were exacerbated by economic uncertainty, rising unemployment (particularly for school leavers), an ageing population and a media-fed public disenchantment with higher education.

One might have expected that, with rising unemployment, more students would stay on at school and enter tertiary education. However, such was not the case. The numbers of full-time students in both universities and CAEs peaked in 1977 and then began to decline until this trend reversed in 1982. The decline over this five year period was most marked for male students under 20 years of age. There appear to be a number of reasons for the decline, some of which were reinforced by well publicised criticism of the education system. When graduates from higher education found more difficulty than previously in securing employment, it appears that a number of able young people opted for immediate employment after secondary school in preference to further study and an unknown future. In so doing, they effectively displaced less able school leavers who then joined the dole queues. There was also little immediate incentive to enter higher education since, even if students qualified for the means tested student allowances, these offered less than unemployment benefits.

During this period, the universities and CAEs were squeezed financially. The Williams Committee (1979) was set up to explore the relationship between education and employment and the educational provisions required for human resource projections. Perhaps because the CAE sector had evolved to resemble the university sector, increased development was recommended for the TAFE sector with its vocational emphasis attuned to the needs of business and industry. The squeeze on higher education continued when, following a government report (the Lynch Report, popularly known as the "Razor Gang Report") in 1981, 30 CAEs were faced with the alternative of amalgamation or the withdrawal of national government finance.

The decline in teacher education within higher education warrants particular mention. Teaching had been a profession which absorbed large numbers of graduates in earlier years. When secondary education was expanding rapidly in the 1960s, a significant short-fall of teachers required overseas recruitment. Then in a few years,

the short-fall changed to a drastic over-supply. Of course, earlier "manpower planning" models have always been susceptible to error because of such factors as unpredictable demographic fluctuations, technological changes, variations in the economy, movements in the labour market and political decisions. In this instance, while the effects of a declining birthrate were readily projected, the factor which had the most impact on the projections for teacher demand was the resignation rate of teachers which, with difficult economic times, fell from 14 per cent per annum to around three per cent. Although there was a policy decision to permit a modest over-supply rather than to cause severe disruptions to training programmes, enrolments in preservice teacher education programmes dropped dramatically. With a very high proportion of tenured staff in universities and CAEs, the system found it difficult to adjust to these changed circumstances in spite of attempts at diversification of programmes and redeployment of staff.

In the late 1970s there was some tendency to associate growing youth unemployment with failure of educational institutions to provide adequate vocational training. This gave further impetus to calls for more accountability from higher education and led to a number of evaluation studies focusing on aspects of teaching and learning, reviews of departments, curriculum evaluations, and studies in which there has been a follow-up of graduates. Emphasis was also given to academic staff development (AVCC, 1981) and to innovations in teaching including those using new technology. Some studies focused on problems of mature age students, studies on drop-out continued and aspects of equity of access remained of concern. Whereas earlier studies on student performance and wastage focused on entry characteristics of students, studies of this period included measures of the "environment" of the institution and of the teaching-learning situation.

The Current Situation

More recently, there have been calls for higher participation in upper secondary schooling and in higher education on the grounds that a good general education is preferable to mismatched vocational training or to the disillusionment of unemployment. The Commonwealth Government, with assistance from the States, has fostered programmes on "participation and equity" and declared its youth

policies to be "priority number one". Other policies have sought to bring various student allowances into line with unemployment benefits, albeit by changes phased in over two to three years. Since 1982, full-time enrolments in higher education have been increasing again and the CTEC Report (1984) for the 1985-1987 triennium identified indicators of strong demand for places in higher education throughout the triennium.

On the other hand, because of continued financial constraints on institutions of higher education, the number of new places made available has not kept pace with the demand so the pool of qualified but unsuccessful applicants has grown and entry scores to numerous programmes in higher education have increased. Demand from mature age students has shown no indication of diminishing. Moreover, increasing participation at the upper secondary level since 1982 can be expected to continue to flow through to the higher education sector for the foreseeable future.

Equity has remained as a current concern for higher education in Australia. Thus the CTEC Report (1984) for the 1985-1987 Triennium paid particular attention to women in higher education (as students, as academics and as managers) and analysed the extent of disadvantage experienced by Aborigines, disabled students, low income earners, and rural students. One working party reported on the situation of students in outer metropolitan areas (CTEC, 1983) and another (Parry, 1985) called for a new university in the western suburbs of Sydney on the grounds of very low participation from this region. This last proposal has led to interesting debate and political lobbying in an attempt to sway CTEC opposition to the proposal at this stage.

Other recent issues in higher education include whether or not fees should be reintroduced for higher education, the respective roles of universities and CAEs within the binary structure of higher education, the possibility of allowing some forms of private higher education, and questions of quality and efficiency. Each is discussed briefly.

A proposal to reintroduce fees was debated by government in 1985. Those who argued the case for fees noted the high cost of tertiary education and noted that the social composition of students in higher education had not changed radically since the removal of

fees in 1974. Therefore, they argued, higher education fully supported by government was in effect a subsidy by low income earners to higher income earners whose participation was much greater. Even the Australian Vice-Chancellors' Committee was divided on the issue, recognizing the benefits of additional resources but sceptical that these resources would be used for additional scholarships or for system improvement. Those who argued against fees claimed that considerable gains had been made towards greater equity in participation, particularly if one considered the full range of participants, and that the reimposition of fees posed a real threat to these gains. They eventually won the day.

The CAE sector has grown from its establishment in the 1960s to a point where it now enrols more students than does the university sector. The colleges form four clusters. There are five central institutes of technology, twelve metropolitan and eleven regional multi-purpose colleges, and seventeen specialist colleges. Despite the label "technological", the institutions in the first group have been moving away from their traditional concentrations in the sciences and technologies, which now only account for between 40 per cent and 60 per cent of their student loads. Commercial and Business Studies is now a major offering in the institutes of technology. Many of the 23 multi-purpose colleges were formerly Teachers' Colleges, and teacher education remains a substantial or predominant field of study in 19 of them. A few of these colleges have not yet developed sufficient diversity in offerings to justify fully their designation. Nevertheless, diversification is continuing with the widespread introduction of nurse education into CAEs. Most of the smaller CAEs are specialist colleges. They can be categorised into four sub-groups by field: teacher education, health, agriculture, and the visual and performing arts. In addition to the colleges designated as CAEs, advanced education courses are offered by two Institutes of Advanced Education within universities, TAFE institutes in three states, and a range of other government and private institutions. The universities form a much more homogeneous group than the CAEs. While they range in size from around 2,200 to 18,200 students and the newer universities offer a narrower range of fields than the older ones, all of them share concentrations in the social and natural sciences, and the humanities. They also share university traditions and the common academic values of international scholarship. In the interests of rationalisation, in recent years there have been some

mergers of institutions across the two sectors, although other proposed mergers have been resisted. Universities still receive higher levels of funding to support research activities but some CAEs have given increased emphasis to research and to postgraduate work. CTEC has not approved Ph D training in CAEs but some of the larger institutes of technology have mounted Ph D programmes with support from industry and sometimes in collaboration with universities. Debate continues about the respective roles of institutions within the two sectors.

Debate about a role for private higher education has recently grown out of concern about the placement of overseas students in Australian institutions of higher education. About 75 per cent of Australia's 15,000 overseas students are private students. These students pay an annual fee while they have student status but this fee goes to consolidated revenue, not to host institutions or schools. In a climate where local students face severe quotas for some courses and entry is highly competitive, it has been argued that overseas students warrant separate consideration. Two reports to government (Goldring, 1984; Jackson, 1984) addressed the issues but came to different conclusions. As a consequence, government has introduced a policy whereby institutions are invited to place quotas on the proportions of overseas students within courses and within the institution at large. Yet faced with a continuing demand for Australian educational services, institutions have also been encouraged by government to explore ways of marketing their services. This has led to some proposals for full-cost recovery courses and to one proposal for a private international campus in Western Australia. The latter proposal has been interpreted by some staff associations as a potential threat to conditions of service of staff in higher education, and to the fundamental principles of higher education in Australia.

Current concerns about quality and efficiency in higher education have emerged from the earlier calls for more accountability. Similar concerns have been expressed about primary and secondary schooling where various states have instituted efficiency reviews and the Commonwealth Minister set up in 1984 a Quality of Education Review Committee (QERC) to identify strategies to improve educational outcomes. At the higher education level, the Commonwealth Government formed in 1985 a committee to report on efficiency and effectiveness in higher education. CTEC had previously commis-

sioned two investigations into the measurement of quality in universities (Linke et al., 1984; Bourke, 1986). In short, there is now considerable interest not only in access to higher education and in the processes of teaching and learning, but also in the outcomes both for society and for individuals (Karmel, 1985).

Conclusion

The purpose of this chapter has been to provide a broad overview of higher education in Australia in the hope that it will assist readers in understanding the issues addressed in the remainder of this report. The overview here has attempted to give some information on the complex structure of higher education and to identify issues and concerns about equity, quality and cost within an historical perspective. Finally, some current issues with important policy implications have been identified and discussed to give a perspective on the potential relevance of this study.

Chapter Two

DEMAND FOR, ACCESS TO, AND PARTICIPATION IN HIGHER EDUCATION

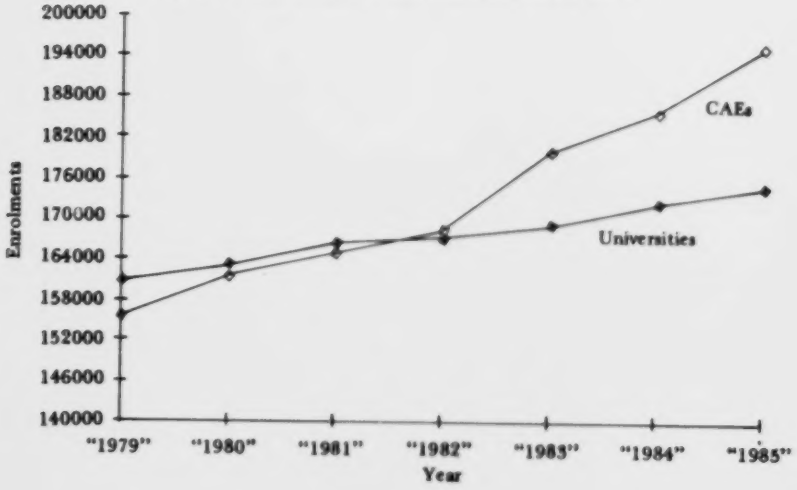
Neil Baumgart and Elinor Smith

Recent Enrolment Trends

Chapter One has described the broad provisions of higher education in Australia in universities and colleges of advanced education (CAEs) and identified some recent trends in enrolments. However, a more detailed analysis is necessary to identify the nature of changes and to explore reasons for them.

In global terms, total enrolments in universities and CAEs have increased in recent years with the increases being much greater in the CAE sector (see Figure 2.1), particularly since 1982. However, it is important to try to identify what has brought about these changes, the extent to which they reflect deliberate policies, and how far they go towards meeting demands for places in higher education.

Figure 2.1 Trends in enrolments 1979-1985



An understanding of higher education in Australia requires recognition of the very significant role of part-time study, both internal and external (or distance education). Almost 40 per cent of university enrolments and more than half of CAE enrolments are part-time. An analysis of enrolment trends, broken down by type of enrolment (see Figures 2.2a and 2.2b), gives a better indication of the nature of the changes. Tables 2.1 and 2.2 provide the data on which the graphs are based.

Table 2.1 University enrolments, 1979-1985, by type of enrolment

	Full-Time		*Part-Time Internal*		*Part-Time External*	
Year	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*
1979	99,080	(61.6)	48,919	(30.4)	12,811	(8.0)
1980	98,993	(60.7)	50,325	(30.8)	13,838	(8.5)
1981	99,924	(60.0)	51,462	(30.9)	15,225	(9.1)
1982	100,357	(59.9)	51,900	(31.0)	15,146	(9.0)
1983	102,801	(60.7)	51,231	(30.3)	15,318	(9.0)
1984	106,019	(61.4)	50,682	(29.4)	15,977	(9.3)
1985	106,805	(61.1)	51,528	(29.5)	16,484	(9.4)

Table 2.2 CAE enrolments, 1979-1985, by type of enrolment

	Full-Time		*Part-Time Internal*		*Part-Time External*	
Year	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*
1979	82,125	(52.8)	56,368	(36.2)	17,174	(11.0)
1980	78,225	(48.4)	62,253	(38.5)	21,086	(13.0)
1981	76,685	(46.4)	64,913	(39.3)	23,469	(14.2)
1982	77,795	(46.1)	65,992	(39.1)	24,801	(14.7)
1983	86,325	(48.0)	67,754	(37.7)	25,814	(14.3)
1984	90,852	(48.9)	67,679	(36.4)	27,289	(14.7)
1985	97,436	(49.8)	68,955	(35.1)	29,112	(14.9)

Figure 2.2a University enrolments, 1979-1985, by type of enrolment

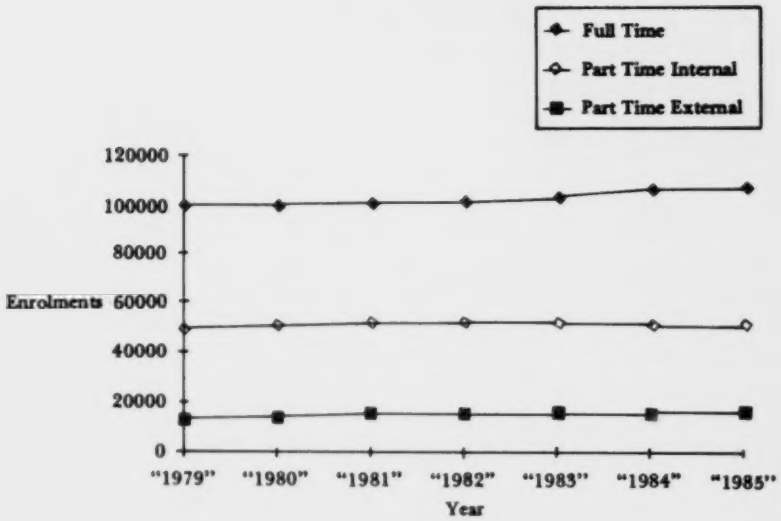
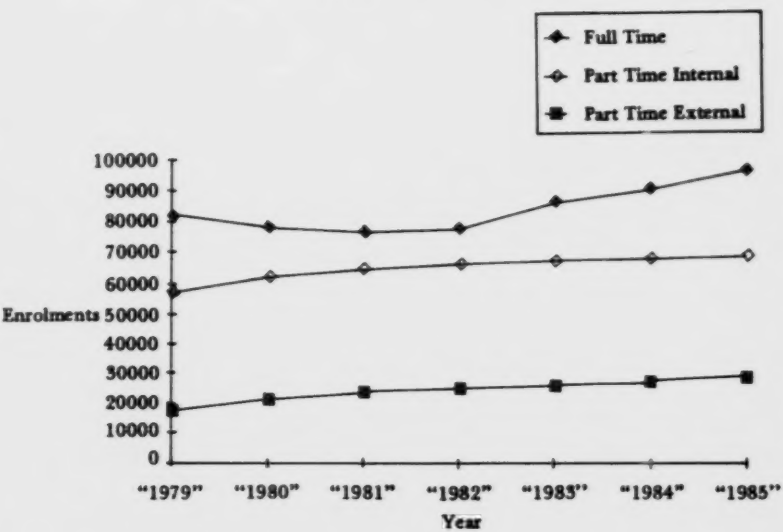


Figure 2.2b CAE enrolments, 1979-1985, by type of enrolment



Full-time enrolments in both universities and CAEs peaked in 1977 (that is, prior to the period of the graph in Figure 2.2) and then declined and it was not until 1983 that they returned to the 1977 levels. Hence the increases shown in Figure 2.1 for the total enrolments over the period 1979 to 1983 reflect increases in part-time enrolments and disguise the steady and falling enrolments for full-time students. Since 1983 all categories of enrolments except part-time internal enrolments in universities have been increasing. As is evident in Figure 2.2, the sharpest increase has been for full-time enrolments in the CAE sector. However, some of this increase in 1985 reflects a decision in New South Wales to move nurse education from its former hospital base into CAEs.

The decline in *youth* participation in *full-time* higher education in the late 1970s and early 1980s was well documented in a CTEC (1982) study entitled *Learning and Earning*. This trend has reversed since 1982 and government has introduced some policies designed to encourage higher retention rates in upper secondary schools and increased participation rates in higher education. For example, an amount of $10 million* was allocated in 1984 to permit selected institutions to increase their enrolments. This provision for additional places through a special grant (based on marginal student costs) has continued in subsequent years. With a similar aim of increasing participation, student allowances are being increased to bring them into line with unemployment benefits. However, the former are means-tested while the latter are not. Against these initiatives, most institutions of higher education have been forced to restrict their activities in recent years because of severe constraints on overall funding.

How successful the particular policies of increasing participation will be in the longer term remains to be seen. Some of the increases which have occurred can be explained by other factors. For example, with more overseas students enrolled in secondary schools, there has been a resultant increase in overseas students transferring to higher education. The CTEC (1984) Report for the 1985-1987 Triennium contends that this factor "more than accounts" for the increase in students enrolling in universities in 1983 after completing an Australian secondary school course. Higher enrolments in post-

* Approximately 1.4 Australian dollars (A$) = One United States dollar.

graduate education (see Chap. 5) and steady increases in enrolments by mature age students (see Chap. 3) also account for some of the increased enrolment.

Trends in Part-time Enrolments

As a *proportion* of all enrolments, full-time enrolments fell to their lowest levels in both universities and CAEs in 1982 (see Tables 2.1 and 2.2). Conversely, part-time internal enrolments, again as a proportion of all enrolments, peaked in 1982 for universities and 1981 for CAEs and have since declined. Nevertheless, these part-time enrolments remain a very significant factor in Australian higher education. Whether or not it is desirable to have such a high proportion of part-time enrolments is a matter for debate. On the one hand, some would argue that part-time study increases equity by giving opportunities to students who cannot afford to study full-time to participate in higher education. Such students are able to earn and study concurrently. Similarly, it is argued that mature age students, and notably some women, have opportunities to study which would be denied them if they had to attend full-time. Part-time study is also seen as an important part of continuing education or inservice education for professionals. This is particularly true for postgraduate courses which offer opportunities for people to upgrade qualifications, update their knowledge, or seek retraining in another field through evening study while maintaining a regular work schedule during the day.

On the other hand, others argue that this higher proportion of part-time students reflects education "on the cheap". These people contend that Australia has a low full-time participation rate in upper secondary and in higher education when compared with countries of similar development and that there is simply insufficient provision for full-time study and inadequate support for full-time students. As a consequence, students are forced to study part-time in spite of the sacrifices necessary to do this.

The second category of part-time students – covering those in external studies or distance education – also warrants discussion. As a proportion of total enrolments, part-time external enrolments have increased steadily in both universities and CAEs in recent years (see Tables 2.1 and 2.2). However, not all institutions offer external

studies. Five universities (two in N.S.W., and one in each of Victoria, W.A. and Queensland) and eight CAEs (six regional colleges and two metropolitan institutes in Melbourne and Perth) have large external programmes. In 1983, the five universities formed a Consortium of Distance Teaching Universities in order to promote national co-ordination and to provide efficient cross-crediting arrangements (Johnson, 1983). That is, students enrolled at any university in the Consortium will be able to select some courses offered by other members of the Consortium for credit within their own institutions.

By 1985, 9.4 per cent of university enrolments and 14.9 per cent of CAE enrolments were in external studies. Clearly, this provision provides access for students in remote areas but in recent years urban students, and particularly mature age students, have made increasing use of distance education facilities. The most recent CTEC Report (1984) recognised this and argued strongly against any reduction in existing provisions.

Commencing Students

A more accurate picture of recent trends can be obtained by examining the patterns amongst *commencing* students. As indicated in Table 2.3, for students entering universities in recent years, a fairly consistent proportion of just over 70 per cent embarked on an undergraduate bachelor degree. The remainder enrolled in postgraduate programmes (approximately 22 per cent) or non-degree courses (approximately 6 per cent). The trends in actual enrolments are shown in Figure 2.3. Of course, the natural transition for students completing secondary schooling is into Bachelor degree courses which provide professional education or form the basis for further study. Interestingly, only about half of the undergraduate Bachelor degree students completed secondary school in the previous year. This proportion has been increasing steadily in recent years (see Table 2.4) although it was higher in the late 1970s (55.2 per cent in 1977). In contrast, the proportion of enrolments coming from students who deferred their entry for one or more years has dropped from over 12 per cent in 1982 to less than 10 per cent in 1985. Figure 2.4 shows the trends in *actual* enrolments rather than as percentages of the intake. This shows the increase in enrolments of students coming directly from secondary school, particularly between 1983 and 1984, and the decline in students graduating from

Table 2.3 Commencing students in universities by level of course, 1981-1985

	Year									
	1981		1982		1983		1984		1985	
Level of course	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*
Postgraduate	12,692	(22.04)	13,056	(23.03)	12,646	(22.38)	12,797	(21.88)	13,509	(22.52)
Bachelor degree, undergraduate	41,178	(71.51)	40,157	(70.83)	40,381	(71.47)	42,111	(72.00)	42,887	(71.49)
Non-degree	3,713	(6.45)	3,480	(6.14)	3,473	(6.15)	3,583	(6.13)	3,597	(6.00)
All students	57,583		56,693		56,500		58,491		59,993	

Table 2.4 Previous qualifications of commencing undergraduate bachelor degree students in universities, 1981-1985

	Year									
	1981		1982		1983		1984		1985	
Previous qualifications	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*
Previous experience in higher education in Australia	9,458	(22.97)	8,902	(22.17)	8,804	(21.80)	9,162	(21.76)	9,538	(22.24)
Secondary school in previous year	19,180	(46.58)	19,216	(47.85)	19,350	(47.91)	21,107	(50.12)	21,907	(51.08)
Secondary school, but *not* in previous year	4,840	(11.75)	4,848	(12.07)	4,765	(11.80)	4,571	(10.85)	4,225	(9.85)
Overseas qualifications	2,398	(5.82)	2,307	(5.74)	2,638	(6.53)	2,307	(5.48)	2,107	(4.91)
Other	5,302	(12.88)	4,884	(12.16)	4,828	(11.95)	4,964	(11.79)	5,110	(11.92)
Total	41,178		40,157		40,385		42,111		42,887	

Figure 2.3 Commencing students in universities by level of course, 1981-1985

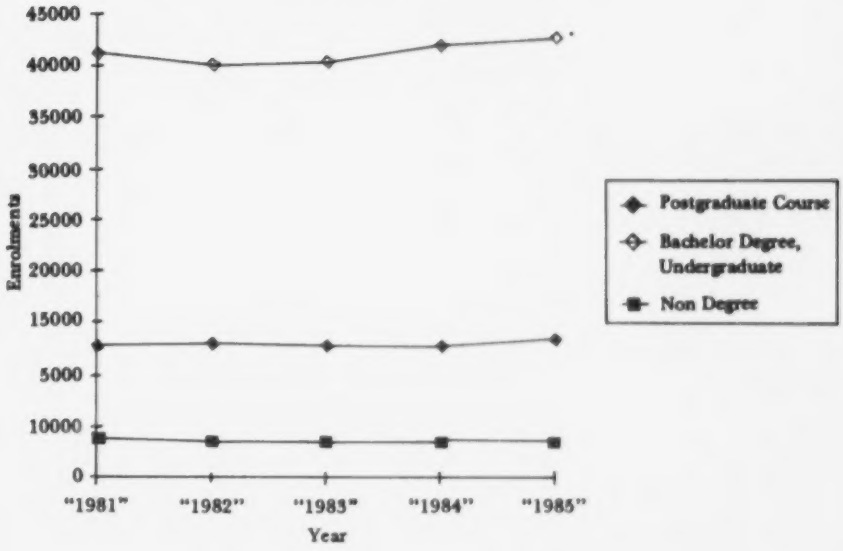
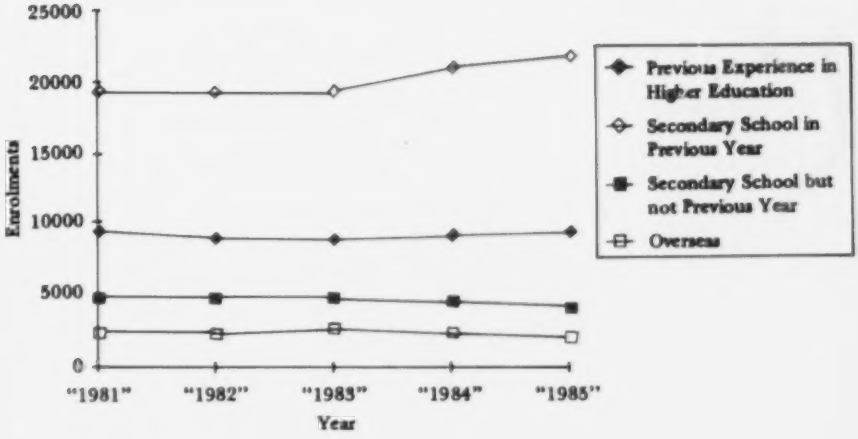


Figure 2.4 Previous qualifications of commencing bachelors degree students in universities 1981-1985



secondary schools but delaying enrolment in universities. As noted earlier, since 1984 the Commonwealth Government has provided additional grants to selected institutions to increase their intake of new students. Enrolments of students with overseas qualifications rose sharply in 1983 but has fallen since then. (It should be noted that this category does not include those overseas students who complete their secondary schooling in Australia before transferring to higher education.) The numbers of commencing students with previous experience in higher education – that is, students changing fields or returning to study after previously dropping out – fell to a minimum in 1983 but has since increased steadily.

Statistics for commencing students in CAEs show a rather different picture. The statistics available are not directly comparable with those quoted above for universities so only the global trends are described here. In general, the CAE sector caters far more heavily for students "upgrading" their qualifications and almost 40 per cent of commencing students have previously studied in higher education. The proportion coming directly from school in 1985 was about 30 per cent. The trends, however, are similar to those for universities. The proportion of commencing students coming directly from secondary school was highest in the late 1970s (36.2 per cent in 1977), then fell away to a minimum of just over 26 per cent in the period 1981-1983, before steadily increasing again.

In summary, the data on commencing students suggest that the recent increases in enrolments in both sectors, particularly for full-time students as described earlier, can be explained by modest but clear trends for more secondary school graduates to proceed directly into higher education.

Participation Rates

Another way of assessing the participation of youth in higher education is to examine participation rates by age. That is, participation can be operationalised as the proportion of an age cohort enrolled in higher education. In Australia, the age of transition to higher education varies across the States with the modal age being 18. However, participation rates typically peak for 19 year olds.

In 1975, 15.6 per cent of 19 year olds were enrolled in higher education. From 1977, this rate of participation fell to a low point

of 13.4 per cent in 1982 before the trend began to reverse. In 1984, CTEC estimated that, if participation rates for older students remained relatively constant as is the present tendency, then places in higher education would need to grow at an average rate of 1.4 per cent per year simply to enable youth participation to return to the levels of the mid-1970s by the year 1990. To achieve the same goal by 1987, the required growth rate was projected to be 2.3 per cent per year.

The evidence above suggests that growth rates of the order of magnitude of the latter figure have been achieved since 1983. It was noted earlier (see Figure 2.1) that the larger increases have occurred in CAEs but that these have been inflated by the transfer of nurse education from hospitals to CAEs. But even in the universities, the percentage increases from 1983 to 1984 and from 1984 to 1985 have been 4.3 per cent and 1.8 per cent respectively. The increases for students coming directly from secondary school have been much higher – 9.1 per cent and 3.8 per cent respectively (see Fig. 2.4).

Student Demand

Given a concerted campaign by government to increase participation in higher education, but given also tight financial constraints and centrally imposed limitations on enrolments, it is important to see what has happened to student demand for places over recent years. Entry to Australian universities is competitive and usually the competition occurs separately in two categories. Recent school leavers compete within *one* category on the basis of their aggregate scores in entrance assessments. These assessments vary from state to state but typically depend on a mix of external examinations and moderated school assessments (McGaw and Hannan, 1985). Applicants are able to list their preferences so that, should they not receive an offer for a highly competitive faculty or institution, they can still be considered for other preferences. Some evidence of increasing demand in recent years is provided by the fact that cut-off scores for entry into numerous programmes of study in a number of universities and colleges have risen, in some cases quite dramatically.

Students applying in the *second* category are mature age people who have *not* recently completed regular secondary schooling. Chapter Three will comment further on students in this category but

Table 2.5 Trends in demand for places in higher education in Queensland, 1977-1985

Year	*Total No. of applications*	*Percentage of applications from school leavers*	*Quota as a percentage of applications*	*Offers as a percentage of applications*	*Acceptances as percentage of offers*	*Enrolments as a percentage of offers*
1977	18,623	51.2	58.4	72.5	78.2	72.5
1978	19,952	50.5	54.0	72.9	75.5	69.4
1979	20,380	52.1	50.0	71.5	73.4	66.6
1980	21,033	51.0	48.7	69.2	75.6	68.4
1981	22,512	47.9	47.9	69.6	78.0	70.5
1982	23,687	47.0	45.7	68.4	77.4	70.9
1983	25,899	46.0	44.2	69.3	75.7	69.4
1984	29,327	45.5	42.0	65.9	76.1	69.0
1985	32,831	48.2	39.6	60.9	75.2	68.0

their entry is determined by the various institutions which reserve a quota of admissions for this category.

Applications for entry to higher education are frequently processed by a central agency handling this work for a cluster of institutions. Further evidence for the demand for student places therefore comes from the statistical records of such agencies indicating the number of applications, the number of places available, the number of offers and the acceptance rate. Table 2.5 shows such data for just one state – Queensland – for the period 1977 to 1985 (Queensland Tertiary Admissions Centre, 1985).

On these figures, the numbers of applications have risen considerably – by 76 per cent over the nine year period shown. (The numbers of students completing secondary school increased by 59 per cent over this same period.) The proportion of applications from students completing secondary school in the previous year fell between 1979 (52.1 per cent) and 1984 (45.5 per cent) before this trend was reversed in 1985. Places are allocated according to a quota system and, with a predictably steady acceptance rate of just over 75 per cent, more offers are able to be made than places available. What is most significant in Table 2.5 is that both the places available

(quota) and the places offered as percentages of applications have dropped markedly over this period. In other words, demand has now moved well ahead of the supply of places. The final column in Table 2.5 shows that some loss occurs between acceptances and actual enrolments, measured after some weeks of attendance.

A similar pattern of demand outstripping the supply of places is evident in other states. For example, in N.S.W., whereas in 1982 over 80 per cent of applicants were offered a place, this proportion fell to 68 per cent in 1983 and 64 per cent in 1984. By 1985, the trend had reversed with about 70 per cent of applicants being offered a place (Universities and Colleges Admissions Centre (NSW), Sixth Report, 1985). This was in spite of special Commonwealth funding for an additional 640 places.

Australia wide, it has been estimated that, of the 140,000 people who applied for admission to higher education in 1984, 110,000 were offered a place (Commonwealth Department of Education, 1986). It is more difficult to estimate the number of suitably qualified applicants who applied for a reasonable range of courses and who would have taken up a place but were not offered one. However, CTEC (1984) estimated this number to be between 5,000 and 10,000 in 1984 and, as reported recently in the press, has increased this estimate to between 9,000 and 14,000 for 1986.

Fields of Study

Finally, this chapter examines enrolments in different fields of study. Any appraisal of enrolment trends needs to take into account variations in employment prospects (for example, an over-supply of teachers, a shortage of nurses or expansion in opportunities in computing) which have an important bearing on students' preferences. Unfortunately, because of the length of the training period and because of rapid social and technological change, the pattern of demand for places in higher education often lags behind the human resource needs in the country.

The available statistics on fields of study use different categories for universities and CAEs and hence they need to be reported separately. Figures 2.5a and 2.5b give the profiles of enrolments in different fields for universities and CAEs respectively for 1985. The dominant field for universities is Arts (or Humanities) with 34.5 per

cent of enrolments, followed by Science (17.8 per cent) and Economics and Commerce (13.9 per cent). In contrast, Education students dominate the CAE sector (31.3 per cent), followed by Commercial and Business Studies (23.0 per cent) and Applied Science (11.2 per cent). Humanities constitutes a small proportion of enrolments in

Figure 2.5a Enrolments in universities by field of study, 1985

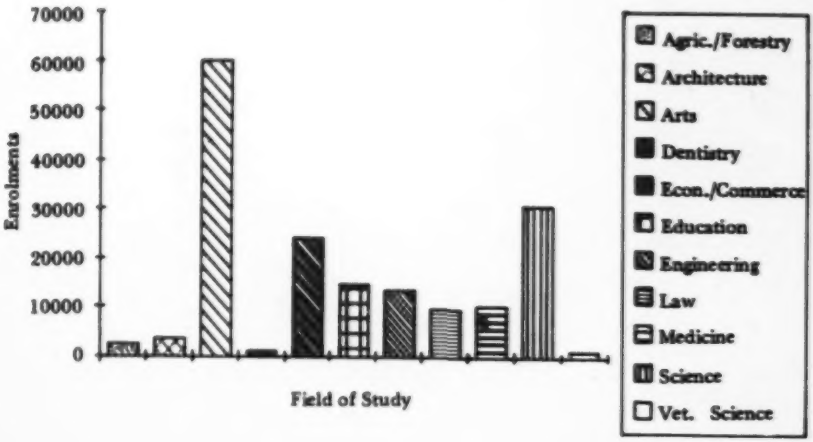
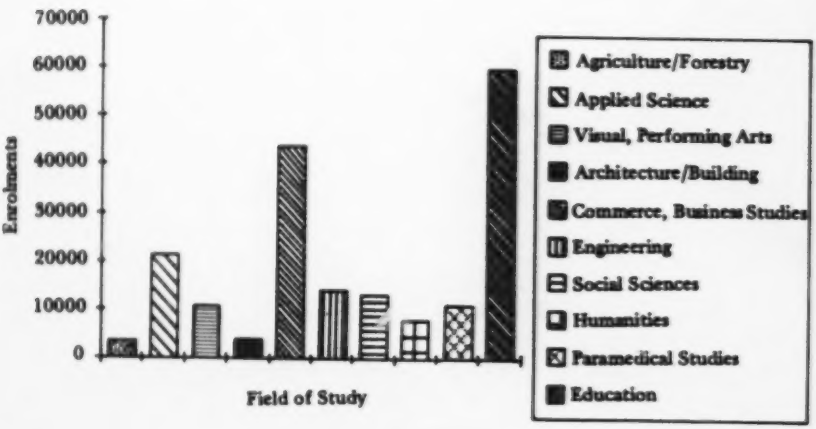


Figure 2.5b Enrolments in CAEs by field of study, 1985



CAEs although it should be noted that the Visual and Performing Arts are counted as a separate field.

What then, of trends in recent years? Figures 2.6a and 2.6b present enrolment trends over a five year period for universities and colleges respectively. Only the five fields with the highest enrolments are shown in each case and the graphs show trends in the *percentage* of enrolments for each field over the period.

Figure 2.6a Trends in percentages of total enrolments in universities for five fields of study, 1981-1985

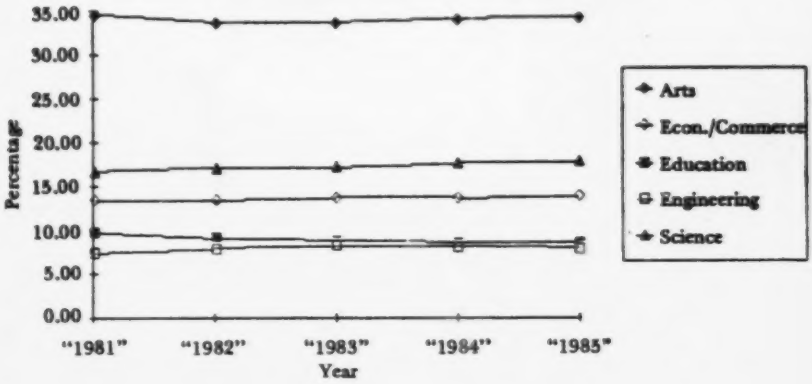
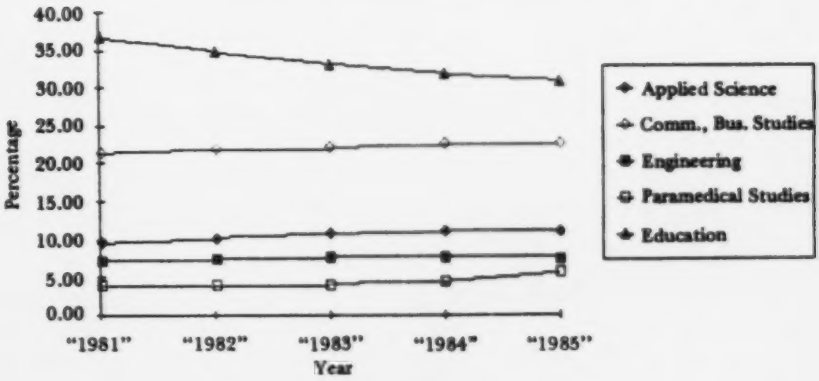


Figure 2.6b Trends in percentages of total enrolments in CAEs for five fields of study, 1981-1985



Perhaps the most striking feature of the enrolments in different fields in universities is their relative stability over time. However, this can be explained to a large extent by the imposition of strict quotas in faculties with heavy demand. Thus in Medicine, Veterinary Science, Dentistry and Law (not shown in the graph), numbers have been held fairly constant and hence the proportions of total enrolment have declined. The most significant changes in proportions of enrolments have been a drop in Education (following an over-supply of teachers in the early 1980s) and a rise in Science. The field of Economics/Commerce showed a steady increase throughout the period although information from individual institutions suggests that these numbers were held in check by imposed quotas and rising entry scores.

The pattern is similar in the CAE sector (see Figure 2.6b) with a marked decline in Education and steady increases in Applied Science and Commerce and Business Studies. The jump in Paramedical Studies in 1985 reflects the movement of a large proportion of nurse education from hospitals into colleges. Other fields tend to show fairly stable patterns of enrolment.

Chapter Three

CONCERNS OF EQUITY AND PROVISIONS FOR DISADVANTAGED GROUPS

Neil Baumgart, Helen Finlay and Elinor Smith

Introduction

Common use of the expression "fair go mate" is an indication of the prominence given to the principle of equity in Australian society. This principle is also applied to education, and to access to higher education in particular, as evidenced by a recent report of a discussion group on selection for higher education which noted that "the most honoured of the principles governing selection is that it should be, and be seen to be, fair" (Commonwealth Department of Education, 1986). The principle also underlies current government policy on "participation and equity" which has sought to increase participation by disadvantaged groups, both at the upper secondary level and in higher and further education.

One means of increasing participation in higher education has been to increase retention in secondary schools to Year 12. Although increasing rates of retention have been the trend ever since the introduction of compulsory schooling (McGaw and Hannan, 1985), it is only in recent years that rates have increased significantly beyond Year 10. Year 10 was for many years the traditional time for leaving school, when 16 year olds could seek employment in clerical or business areas, or in trades through a system of apprenticeship which combined work and training. But technological change, shifts in the nature of the workforce and an increase in credentialism have resulted in a marked decline in jobs available to school leavers of this age.

With upper secondary curricula of the late 1970s and early 1980s still attuned to the needs of students seeking a place in institutions of higher education, and with fewer opportunities for employment in the trades and blue-collar workforce (Karmel, 1983), increasing numbers of young people have sought further qualifica-

tions in the Technical and Further Education (TAFE) sector. However, others have joined the ranks of the unemployed and about 10 per cent of 15 to 19 year olds were so classified in the early 1980s. As indicated in Chapter Two, it was also at this time that the numbers of students going from Year 12 to higher education suffered a decline. Apparently a number of able secondary school graduates rejected higher education and an uncertain future in favour of entering employment straight from school. In so doing, they effectively displaced those who left school at the traditional benchmark of Year 10 and thus made them more disadvantaged at a time of high youth unemployment (CTEC, 1982).

Several government initiatives have sought to reverse these trends by encouraging greater participation, particularly for disadvantaged groups. At the national level, government has instituted a programme of "Participation and Equity" (PEP) (Commonwealth Schools Commission, 1983) designed to move towards a goal of full secondary education. State systems have sought to broaden upper secondary curricula to cater for a broader range of student abilities. However, this has caused some tensions with university personnel who have expressed concern about the preparation of students entering higher education, and with parents who have perceived that less academic subjects have "inferior" status (McGaw and Hannan, 1985) and so reduce further options for their children. Nevertheless, the proportion of young people staying on at school beyond Year 10 has increased steadily in recent years and, in 1985, 65 per cent of 15 to 17 year olds were still in school.

The previous chapter also noted the increasing participation of secondary school graduates in higher education since 1982. Indeed, the system of higher education, financed and controlled centrally by the Commonwealth Government, has not been able to keep pace with the increased demand. Thus, over the past four years, increasing numbers of qualified applicants have not been able to gain a place in higher education and minimum selection scores have risen for many courses. What can be said, then, about the concerns of equity? Has this renewed pressure for places in higher education made it more difficult for educationally disadvantaged groups to participate?

The remainder of this chapter considers data on equity in access to higher education as it relates to race, gender, age, ethnic origin,

disability, socio-economic status and geographical location – categories identified by government as being linked to disadvantage. Each of these variables is considered separately, although it should be noted that they are frequently confounded when some students are simultaneously disadvantaged on several of the factors.

Aboriginal Students

Aborigines, an indigenous minority with their own value system, are seriously disadvantaged since many live in a state of extreme social and economic deprivation (Anderson and Vervoorn, 1983). CTEC (1984) noted that, while Aborigines and Torres Strait Islanders comprised 1.1 per cent of the Australian population, they made up only 0.07 per cent of the student population in universities and between 0.3 and 0.4 per cent of that in CAEs. Not surprisingly, urban Aborigines tend to aspire more to higher education than do those living in isolated areas (Anderson and Vervoorn, 1983).

An Aboriginal Study Grants Scheme (Abstudy) provides living and other allowances for Aborigines. This assists them to participate in various post-school courses, seminars and study tours. For full-time students, living allowances under this scheme are somewhat more favourable than those under the Tertiary Education Allowance Scheme (TEAS). Most Abstudy grants (over 80 per cent) have been for students in TAFE courses and most Aborigines entering higher education come from the TAFE sector rather than from schools.

Universities and CAEs have introduced special provisions for entry of Aborigines and some have introduced special courses. The enclave programmes on some campuses which provide additional tutorials, counselling and a designated location for Aboriginal students, appear to have been the most successful. In spite of significant funding (approximately $2 million of recurrent funds in 1982), the numbers of Aboriginal students involved in higher education remains relatively low. CTEC (1984) reported that 275 Aboriginal students enrolled in undergraduate courses between 1971 and 1983 and almost half of these subsequently withdrew. However, marked increases in enrolments, particularly in teacher education, did occur between the mid-1970s and the early 1980s.

Gender Differences

Participation by women in higher education has increased steadily in recent years to a point where it is now very close to that of men. In 1985, women accounted for 46 per cent of enrolments in universities and 49 per cent of those in CAEs. The corresponding figures five years previously were 42 per cent and 49 per cent respectively. The most significant increases in participation by women in higher education actually occurred in the period from the mid-1970s to the early 1980s. In universities, for example, female enrolments increased by 25 per cent between 1976 and 1983; in contrast, male enrolments *fell* by six per cent. Within CAEs over the same period, enrolments of both males and females increased but, whereas male enrolments increased by 24 per cent, that for females increased by 34 per cent. CTEC (1984) attributed these significant increases in participation by women to "a greater awareness by women of the opportunities available for them in higher education, greater provision for mature age and special entry, and higher school retention rates for female students".

Figure 3.1a Age distribution of university enrolments by sex, 1985

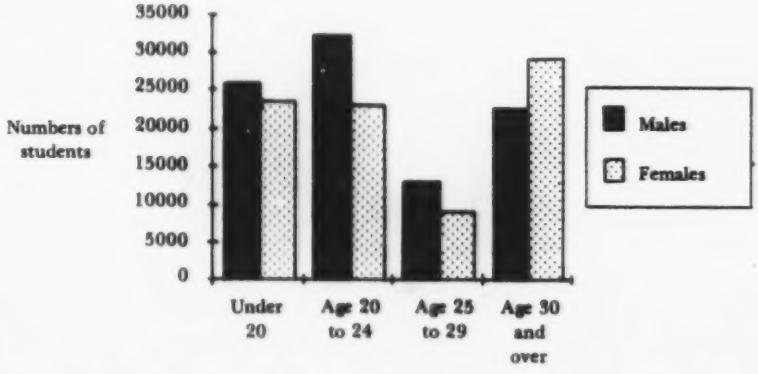
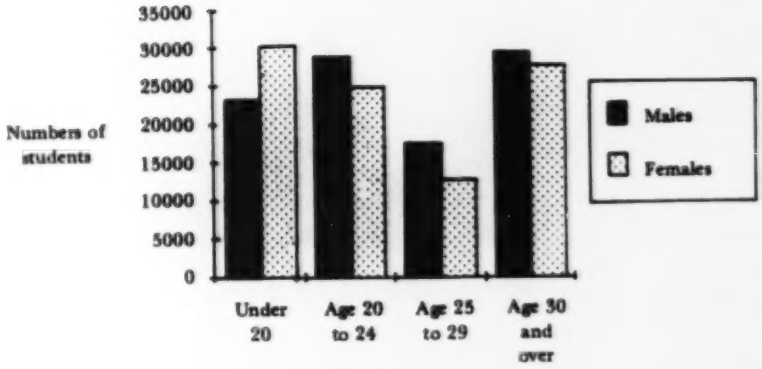


Figure 3.1b Age distribution of CAE enrolments by sex, 1985



A better understanding of the changes and the current pattern comes from closer scrutiny of other variables which interact with the gender difference, including age, type of institution, enrolment status and field of study. Figures 3.1a and 3.1b show an age distribution for enrolments for males and females separately.

For the youngest students (less than 20 years), more of the males enrol in universities than in CAEs while considerably more females enrol in the latter. This trend is reversed for those students 30 years and over. Thus, in spite of increasing overall participation by women in higher education, there is still evidence to indicate inequity in initial access from secondary school to universities with somewhat more women than men having to rely on participation as mature age students.

Similarly, within universities, there has been a tendency for women to be over-represented in part-time categories (both internal and external). Figure 3.2 shows that, although the proportion of females in full-time enrolments has increased in recent years, it still lags behind the figure for men.

In contrast, females dominate the full-time enrolments in CAEs (see Fig. 3.3). To the extent that a CAE degree can be perceived as less prestigious than a university degree, this is further evidence of a

Figure 3.2 Enrolment status for men and women in universities, 1981-1985

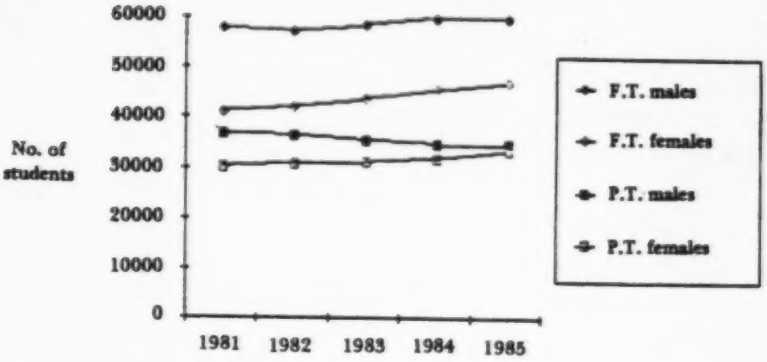
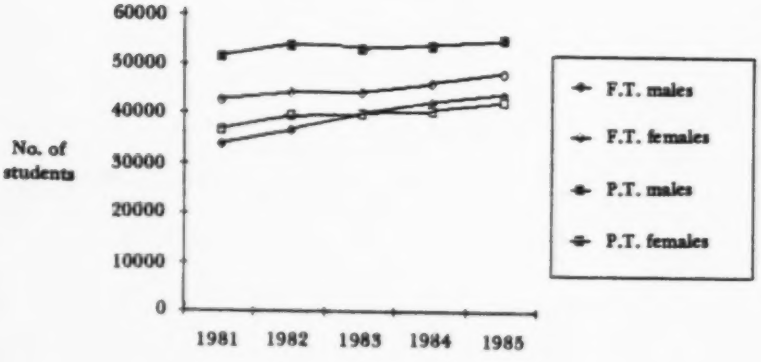


Figure 3.3 Enrolment status for men and women in CAEs, 1981-1985



remaining inequity. However, this pattern is also related to the different mix of fields of study in universities and CAEs (see Figures 2.5a and 2.5b in Chapter Two) and the tendency for female enrolments to be high in humanities and social sciences but low in sciences, engineering and economics and commerce. Of course, it can also be argued that the relationship between field of study and gender is further evidence of inequities.

Age Differences

Chapter 2 noted the high proportion of part-time enrolments in higher education in Australia (see Tables 2.1 and 2.2). Associated with this phenomenon is the opportunity for mature age students to continue their studies while engaged in other employment. Figures 3.4a and 3.4b show clearly that, while most younger students in both universities and CAEs study full-time, the vast majority of older students are engaged in part-time study.

Figure 3.4a Enrolment status for students of different ages in universities, 1985

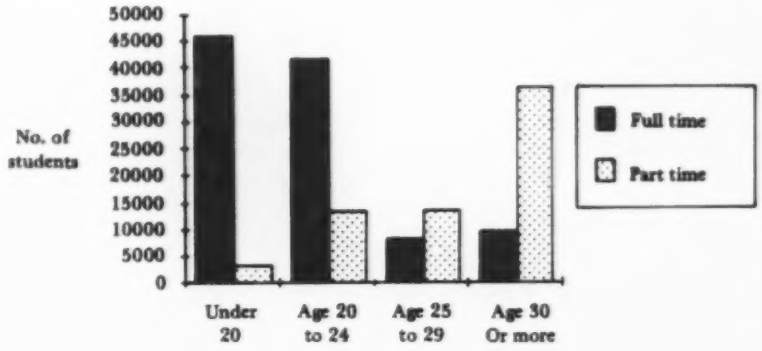
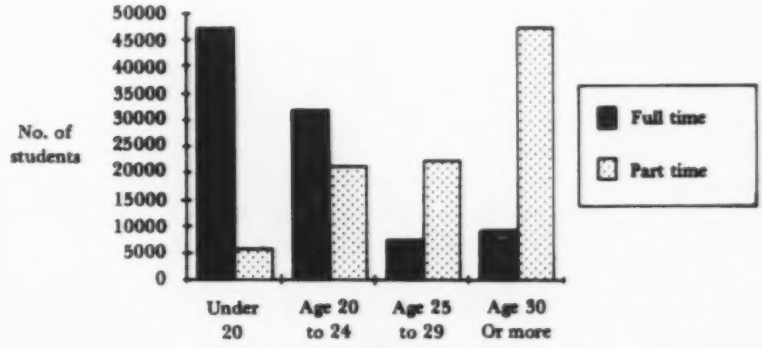


Figure 3.4b Enrolment status for students of different ages in CAEs, 1985



Most universities and colleges offer opportunities for mature age students to enrol outside of the normal entry requirements. Under these "Category B" enrolments, individual institutions determine criteria for entry which may be based on study in a restricted set of subjects at the Year 12 level or on other achievements. Students who do not meet normal or special "adult" matriculation requirements for entry may be given provisional matriculation and have their status in the university or college reviewed after one year.

Research studies which have evaluated the progress of students without the normal entry requirements have found that most perform as well as regular students once they are admitted (Anderson and Eaton, 1982) and that commitment to formal study is a better predictor of success than formal qualifications *per se* (Barrett and Powell, 1980). Hence it has been argued that a liberal admissions policy is desirable, particularly for mature age students, and that this is one way to increase equity by affording to adults a second chance to enter higher education. Moreover, adults seeking entry are likely to include those disadvantaged at an earlier stage.

Although the numbers of Category B enrolments have increased in recent years, the current increase in demand from school leavers threatens the number of places available to older students. Present policy (CTEC, 1984) has been at least to hold constant the numbers of places for mature age students while encouraging higher rates of participation by school leavers.

Ethnic Origin

Over one-fifth of the Australian population were born overseas and of these, about 60 per cent were born in non-English speaking countries. A good deal of research has been undertaken on the experiences of migrants in secondary schools but CTEC (1984) noted the need for further documentation on "the experience of migrants in obtaining access to tertiary education".

Although the figures vary for different ethnic groups, migrants tend to have higher retention rates through to the end of secondary school and on to further education than Australian-born students (Sturman, 1984). However, Southern European migrants have been found to have lower participation rates in spite of high levels of aspiration, while Asians and Eastern Europeans participate in higher

education at a rate much higher than their presence in the population would indicate (Anderson and Vervoorn, 1983). Explanations of this are complicated because ethnic group is confounded with other variables including socio-economic composition, geographic location and "press for English" within peer and family groups. CTEC (1984) recognised the disadvantage suffered by some ethnic groups with respect to participation in higher education but concluded that "an analysis of the problems of the different ethnic groups and the development of measures to assist each group separately may be necessary in order to improve access among the migrant population as a whole".

Disability

In recent years, institutions of higher education have taken steps to cater for physically disabled students, whether suffering from musculo-skeletal, sight or hearing disabilities. No formal statistics are kept at the national level but a number of surveys (for example, Lahy, 1981; AVCC, 1981) have been undertaken. These indicate varying provisions for disabled students, particularly in the form of building designs which include access for wheelchairs. Indeed, government regulations in the various states now require buildings to have access for the disabled.

At Deakin University in Victoria, a Centre has been established to change materials normally used in distance education courses into forms suitable for study by disabled students. At Macquarie University, a "talking typewriter" and a braille computer terminal have been installed for use by blind students. Counselling services are also available for the disabled and special provisions are made to assist such students to complete assignments and examinations. For example, where required, examinations may be set in braille for blind students.

Although some institutions have lagged behind, CTEC (1984) concluded that gradual improvements have continued in the provision of special arrangements and in the construction of physical access to buildings for disabled students.

Socio-economic Status

Most Australians identify themselves as middle class and Australian society has been characterised as egalitarian to a much greater

extent than societies in Britain or the United States. Nevertheless, in spite of a high degree of uniformity in social behaviour and limited differences in patterns of speech, an analysis of the distribution of wealth shows a different picture. It has been estimated that the most wealthy 10 per cent of the population hold 36 per cent of the country's assets and have 22 per cent of its disposable income after tax. Conversely, the bottom 50 per cent are estimated to have 15 per cent of the assets and to earn 29 per cent of disposable income (Jones, 1982).

Numerous studies have shown a strong correlation between participation in higher education and socio-economic status. The stereotype of a university student in Australia is someone from a privileged background who is immune to economic downturns (Braggett, 1984). The composition of the student body in universities, drawn largely from the higher socio-economic status groups, has been very stable over the years (Anderson and Vervoorn, 1983) and appears not to have changed after 1974 when fees were abolished. One possible explanation for this is that students from poorer home backgrounds tend to drop out well before the end of secondary schooling. It has been found that, once students reach the Year 12 level, socio-economic background has little predictive validity for whether or not students proceed to higher education (CTEC, 1984; Carpenter and Hayden, 1985).

Socio-economic status, however, does have a bearing on the kinds of institutions and courses in which students enrol. University students have significantly higher socio-economic backgrounds than students in CAEs (CTEC, 1984) and, within universities, students from higher socio-economic backgrounds tend to be found in the more prestigious faculties of medicine, law and architecture while those from comparatively lower socio-economic backgrounds tend to be found in the less prestigious faculties of engineering and commerce (Anderson and Vervoorn, 1983). Entry to the more prestigious faculties is highly competitive and a study by Dunn (1982) has claimed that entrance examinations are biased in favour of students attending private schools (see also Chapter Four).

One consistent finding from several studies is that trainee teachers are typically drawn from relatively lower socio-economic

backgrounds. In Australia, teaching has always been a major avenue of social mobility for students from working-class families.

Aware of the disadvantage of socio-economic background on participation in higher education generally and in the more prestigious faculties in particular, CTEC has encouraged institutions to mount programmes to counter this trend. Thus, when additional finance has been provided for extra places in higher education in recent years (see Chapter Two), preference has been given to institutions with strategies to encourage admission of disadvantaged groups. Individual institutions have also mounted their own programmes in recent years. For example, the University of Sydney set up a scheme in 1985 to provide tutorial and other assistance to talented secondary school students from disadvantaged families in an effort to maximize their opportunities for admission to the University.

Geographic Location

Although Australia's population comprises mainly urban dwellers, the scattered rural sector faces several problems in participating in higher education. In spite of additional resources at the school level, rural students are less likely to proceed to Year 12 than are urban students. The problems are compounded for participation in higher education which necessitates moving away from home. CTEC (1984) noted that, not only are the costs of accommodation often seen as prohibitive but "country students tend to regard the benefits of higher education as less relevant in a rural environment where career expectations are limited". Elsworth and Day (1983) reported that female rural students were most likely to turn down an offer of a place in an institution of higher education because there was no perceived benefit. The recent economic downturn in the rural sector has added to the difficulties.

However, rural students are not the only ones disadvantaged because of their geographic location. Recently, considerable attention has been paid to the very low participation rates in higher education by students in selected outer suburbs of metropolitan areas, and notably in the western suburbs of Sydney and Melbourne. The problems are confounded with those of low socio-economic levels and ethnic origins. However, the absence of a university in a region is perceived as a major obstacle since the very presence of an institu-

tion has been seen as an incentive for further participation (Anderson and Eaton, 1982). Following the report of a working party (Parry, 1985), the N.S.W. Government has taken steps to provide a university in the outer western suburbs of Sydney by using and extending some existing facilities in CAEs in the area. However, CTEC and the Commonwealth government have not as yet acceded to requests to fund the new institution as a fully-fledged university.

Chapter Four

EQUITY AND PARTICIPATION: AN ANALYSIS OF THE ISSUES AND IMPLICATIONS FOR THE FUTURE

Dan O'Brien

Introduction

Successive Australian governments have, as noted in Chapter 1, tried to increase participation in tertiary education by what are termed disadvantaged groups. Despite consistent efforts to broaden the profile of entrants, the over participation by some groups and the inadequate representation of others continues. The basic thrust of Government policy has been to increase opportunity for access. More places have been provided at tertiary level and at Grades 11 and 12 in secondary schools. CAEs which now take 60 per cent of tertiary students were opened and staffed during the 1960s and 1970s. These were intended to act as tertiary institutions complementary to universities. Their clientele was to be those who wished to do more applied studies or sub-degree diploma courses. The TAFE sector was designed to provide apprenticeship training and other formal courses as well as continuing education of a non-formal type, including arts and crafts. It now has a very large enrolment. But is increasing opportunity for access sufficient to redress inequities in participation? Or are there other factors which need to be understood and taken into account in policy decisions?

The Nature of Changes in Participation

In 1977 numbers in universities and CAEs peaked, and from then to 1982 showed little change, with a notable drop in the number of post school students entering higher education. As the economic situation continued to worsen during that period, brighter students refused tertiary places and opted for secure jobs. They displaced those less gifted who would have obtained the jobs had the ones with adequate entry marks gone to university or CAE.

It is perhaps inevitable that privileged groups' participation in post school tertiary education did not decrease to the same degree as did that of the disadvantaged. Since 1982, immediate post school participation by all groups has again begun to rise steadily (see Chapters Two and Three). However, it is clear that the disadvantaged, more so than the "affluent", are at the mercy of swings in the economic situation.

The concern of the CTEC Report of 1982 was that many able young people were not going into higher education. They were either doing courses at secondary school which virtually barred them from university or were taking jobs. Participation of 17-19 year olds went down by 17.9 per cent from its peak in the late 1970s. The CTEC Report (1984) for the 1985-1987 triennium shows that while participation has increased, both women and Aboriginals are still under-represented.

Suggested Remedies and the Assumptions Underlying Them

The CTEC Reports conclude that greater access to educational opportunity can best be achieved through increased participation and the resources to achieve it. Moreover, it is argued that "it is neither desirable nor practicable to recommend a decrease in opportunities for groups which already participate as a means of improving access for groups which do not now participate" (CTEC, 1984).

There are two presuppositions which underpin this and similar statements:

1. *The provision of resources virtually guarantees participation.* This may be queried by the experience in a number of systems. For example, in the Papua New Guinea education system, despite the provision of additional places, teachers and funds, participation in community schools by the school age population has never exceeded 60 per cent. Providing spaces does not deal with cultural, economic or social problems which may act as barriers to increased participation.

2. *The liberal theory of distributive justice applies.* In other words, it is assumed that the institution has fulfilled its obligation by opening its doors, increasing its capacity and even paying the entrance price. (cf. Rawls, 1971)

These provisions are a necessary precondition to full equitable participation. However, certain structural difficulties are neither removed nor alleviated by them. As in the case of community schools in PNG, the provision of space does not overcome cultural, economic and social factors, either of access to or progress through the system. This chapter deals with some of these structural problems inherent in higher education in Australia.

Structural Constraints

Although CAEs were not originally intended to give degrees, within a few years they began giving undergraduate degrees and have now received approval for awarding higher degrees (Martin, 1986). This phenomenon, known as Upward Academic Drift, has begun to affect TAFE, where the numbers and levels of 'qualification' courses are increasing and non-formal education is being moved to the margin. Private people or organisations and continuing education programmes of universities and CAEs are taking on the provision of the leisure type courses originally expected from TAFE. One small example of this trend in the TAFE sector in N.S.W. will suffice. Courses in photography are now structured with an ever increasing degree of professionalisation, and of eight courses on offer, only two are for the amateur. Similarly, with directives to improve access and equity, higher education institutions are being pressured by the Commonwealth government to give credits for TAFE courses (Martin, 1986).

Such an upward drift towards ever increasing proximity to university styles and standards shows an attitude to learning that is inimical to equalisation. Not everyone is suited to the test and examination syndrome which characterizes a university. Neither is every subject suited to the kind of learning presupposed. However, the drift shows the popular belief that the university is the place where "true" learning takes place. Thus, it has been observed that "by definition no society with but one approved entry into the mainstream of dignity can be truly open" (Husén, 1975).

University style learning is based on the view that knowledge is higher and better the more abstract and generalisable it is. Even within universities, the pure physicists "look down on" the applied, while engineers are regarded as little better than agricultural students,

because of their emphasis on the concrete and the practical. There is a feeling that such purity of thought is also morally better. This is, of course, an odd return to a Platonic Greek background. Learning is still perceived as in Descartes' clear ideas from which *deductions* are made. The alternate but not contradictory ability to be *inductive* remains flawed by the difficulty of making truly universal judgments from observable data.

Given this attitude, it is not surprising that there is a continuing upward thrust and a continuing intellectualisation. There is a type of Diploma Disease (Dore, 1976) which forces everybody to obtain paper qualifications. Another name is 'Credentialism' and in its latest development a diploma will be substitutable for the first year of a Masters Degree. Nurses must learn nursing at CAEs and business people learn business in Schools of Management. [One extremely wealthy Sydney business man even took a degree in Economics at the University of New South Wales to find out how he had become rich.]

The second structural aspect which continues to bias participation towards one group and away from another is that relating to parental socio-economic status. The composition of the university and CAE student body has remained similar to what it was before equalisation attempts. The best determinants of higher level study were (and are)

1. high occupational status;
2. having a father with tertiary education;
3. attendance at a non-Catholic private school; and
4. parents' expectations and aspirations.

Studies carried out by Poole (1978a and 1978b) in La Trobe, Williams, Clancy, Batten and Girling-Butcher (1980) for Australia, add

5. state of residence;
6. school achievement;
7. sex; and
8. family characteristics.

Let us examine these characteristics from an anthropological or sociological point of view. Talcott Parsons adapted Durkheim's

division of societies into Traditional and Modern. Traditional societies were backward economically because they gave authority and prestige on the basis of ascription or birth, while modern or rational societies rewarded achievers. One could not argue that the variables listed above are as prescriptive as might be the case in a totally hierarchical society. Nonetheless, had one a choice of parents and sex, the person who wished to achieve would know what to opt for.

The Modern-Traditional dichotomy may also be used to examine the potential career path of women. Many still see their proper role as that of almost sole care-giver of the young child. Thus they will choose subjects even at university which will enable them to have an interrupted career. Despite a modern society, one of the major structures within that society is still strongly traditional in the role it ascribes to women.

With certain ethnic groups, traditional views of society not only affect women's career opportunities, but also those of males. In such societies authority is vested in parents, elders and those with status. Such attitudes inhibit the student from arguing his or her case either in school or university. The tendency is to accept what the authority figure says. Research carried out at the University of New South Wales confirms this at a third structural level, namely that of language. For a number of reasons, migrants and their children, even those born in this country, have language difficulties. Parents' first language, especially if spoken in the home, affects the student's command of English (O'Brien, 1983).

Teaching English in schools is designed on a Chomskian model of learning from the environment. If, however, the environment largely comprises other migrant children, the effect on language learning is noticeable.

Both the notion of multilingualism and of varieties of speech are 'modern' notions, but traditional notions of how English should be spoken, particularly among employers, hold a strong grip.

This leads to great insecurity among some migrant students. In a series of interviews, a number of such students said that they synopsized the writing of others to the point of plagiarism. The kind of help such students need is only given in Grades 11 and 12, after many have left school (O'Brien, 1983).

However, when one considers the *type* of language used in university and secondary schools, one must classify as disadvantaged not only migrant students but also those from semi or unskilled backgrounds. An examination of the language used in secondary schools and universities has revealed that certain groups are given a notable advantage by the particular lexicon they use. This is not a repetition of Bernstein's "class" and "code". What is at issue here is the notion that a social group identified by such variables as age, social class, gender, area of living and ethnicity, has a lexis (vocabulary) that is much more adapted to a secondary school and university life than the lexis of other groups.

A study dealing with the lexis of social groups has shown that educational success and failure seem to be related to lexical characteristics possessed by some sections of the corpus of words in English that is of Graeco Latin origin (Corson, 1986). Anglo-Saxon words tend to be of a *concrete* nature, while Graeco Latin ones deal with more *abstract* ideas. Labov (1972) says, for example, that for the school curriculum a richer knowledge of the Latinate vocal is a useful acquisition. In the 1970s in America, Latin has been introduced into senior elementary programmes.

It is particularly during the later adolescent years that students need to expand vocabulary to cope with the increasingly abstract concepts needed to pass exams (Corson, 1986).

A count made of the frequency of Graeco Latin words in written English reveals that a strong correlation exists between the level of 'difficulty' of subject matter (a criterion of abstractness) and the number of Graeco Latin words in that subject matter.

Thus an exam of 8,000 words used in seven specialist areas showed a median of 74 per cent Graeco Latin words, 67 per cent for Logic and Maths, and 86 per cent for Aesthetics.

Policy Implications

The above are some of the major structural constraints which continue to inhibit full equality of participation. CTEC has stated that greater equity will be achieved by giving greater access and participation and the provision of resources to achieve that. It has also contended that it is neither practicable nor desirable to recommend a decrease in opportunity for groups which already participate

as a means of improving access for groups which do not now participate.

It is not suggested here that CTEC's policy is incorrect. However, it is proposed that within the present system certain difficulties could be removed and others not created.

Firstly, the increase in credentialism could be avoided if one were to question the value of awarding higher education credits for TAFE courses. The ostensible reason for giving such a reward to TAFE courses is that they provide an efficient means of expanding opportunities in higher education previously the domain of universities and CAEs. However, to allow the latter to accredit courses in TAFE is to run the risk of making that sector yet another university type sphere of learning. The upward academic creep would then affect TAFE and yet another body would have to be founded to give students a non-university type education. It is undoubtedly time that the univocal view of knowledge be questioned.

Secondly, society, led by universities and CAEs, might debate the overlap of traditional and modern views of the roles of members of society which inhibit their full participation in the educational world. For example, given the number of two job families, there is little room left for the notion of the male as the unique bread winner or of the female as primarily the child carer. Job sharing is a recent concept in the work place: career sharing may well be necessary in the family.

Thirdly, it will be necessary to look at the teaching of English in the schools so that students are not disadvantaged by a view of English which relates back to a period when English was the native language of all groups in the country. Language is but one, though perhaps a most important, cultural factor which has to be taken into account and studied in an effort to find out what inhibits people with particular backgrounds proceeding to higher education and staying through the course.

Chapter Five

POSTGRADUATE EDUCATION

Alan Lindsay

The Nature of Postgraduate Study

Postgraduate education encompasses the highest levels of formal study within the education system and includes study for a graduate diploma, a master's degree, and a doctorate. The label 'postgraduate' is applied loosely to any course taken after completing a first degree or diploma, and more strictly, to courses which *extend* study beyond the undergraduate level.

Postgraduate qualifications in Australia are classified as either *research* or *coursework*. *Research* degrees are those in which the research component is the sole or major requirement. Qualifications in the research stream involve a major supervised research thesis. The examination process usually involves at least one "external" examiner. Coursework may be required but it is preliminary or subsidiary to the research component. A research degree prepares the student for an academic or other research career. In contrast, *coursework* qualifications are generally professional in orientation; they are intended to extend and update knowledge and skill within the student's area of professional practice. Coursework qualifications involve a series of courses and sometimes a small research or practice-related project which is usually examined within the institution. Not all postgraduate study involves a formal course leading to a qualification. Some of the most valuable professionally-oriented postgraduate education occurs in the form of short non-award courses run by employers, or as part of the continuing education programmes of professional bodies and educational institutions. These forms of postgraduate education are discussed in Chapter Ten.

The Development and Place of Postgraduate Study in Australian Higher Education

Australian universities have only developed a significant role in postgraduate education since the Second World War. The first

Australian PhD was not awarded until 1948 and even twenty years ago there were only 200 PhDs graduating each year. In 1970 there were only 11,500 higher degree students in the university student population of 117,000. When the Advanced Education sector was established in the 1960s, it was not envisaged that the CAEs would develop a major role at the postgraduate level, and despite the lessening differentiation between university and CAE roles, their postgraduate provision remains distinctly different with the universities offering mainly higher degrees and the CAEs mainly postgraduate diplomas.

Postgraduate students are still a small and select group of students, totalling only about 56,000 (16 per cent) in a higher education population of 360,000 students. However, postgraduate study plays a more central role than the number of students suggests. Postgraduate education is the level of learning most closely associated with the core activities of academic culture: research and scholarship. Postgraduate students make an important contribution to university research, and it is almost impossible for a university department to maintain a high level of research productivity without a group of good postgraduate students. Both through its contribution to university research, and as a source of highly skilled labour, a nation's postgraduate education has a significant influence on its social and cultural life, and its economic and technological future. While this is recognised by both governments and educational institutions, the current preoccupation with the pressing needs of school leavers and the large undergraduate population has led to postgraduate education being somewhat neglected. The goals of increased undergraduate participation and equity have tended to overshadow the pursuit of excellence, the development of high level skills, and the advancement of knowledge.

Admission

The distinction between *coursework* and *research* qualifications is an important one in understanding the entry requirements as well as the structure of postgraduate education. The two types of programme are best viewed as separate streams with different entry requirements. Entry to the *research* stream requires a bachelor's honours degree or some equivalent research experience. The research stream comprises master's degrees by thesis (sometimes designated as

an *honours* master's), the PhD and the higher doctorates. Many research students do not undertake a master's degree since a high grade of honours at the bachelor's level qualifies a student for direct entry to PhD candidature. The *coursework* stream contains only graduate diplomas and pass master's degrees. The universities have experienced rapid growth in coursework master's programmes which now account for more than 45 per cent of their higher degree work compared with 22 per cent twenty five years ago. Entry to a coursework master's programme usually requires a pass bachelor's degree and frequently, one or two years' practical experience. Entry to a graduate diploma usually requires a pass bachelor's degree, or in CAEs, a bachelor's degree or undergraduate diploma. The CAEs, constrained by government policy from developing extensive master's programmes, offer more than 90 per cent of their postgraduate education at the diploma level. Owing to the distinctly different admission requirements and programme orientation, transfer from the coursework stream into the research stream is not straightforward, even when both streams apparently exist side by side within the programme structure of a master's degree. For a student with a previous pass degree, direct entry to a research degree may not be possible. Often completion of a qualifying programme equivalent to the honours year in a bachelor's degree may be required.

Each year about 7,500 students commence study for a higher degree and 17,500 for a graduate diploma. The fields of Arts, Science, Economics/Commerce, and Education attract more than 1,000 new higher degree enrolments each year. The major field of study at the diploma level is Education with about half the total enrolments.

A Profile of the Postgraduate Student Population

The postgraduate student population has a much greater spread of age and work experience than the undergraduate population. Some students proceed directly to postgraduate study after obtaining their basic qualification. More commonly, postgraduate students commence their studies after a period of employment. More than two thirds of postgraduate students study part-time while continuing to work. This is consistent with the professional continuing education function of much postgraduate study, the very limited financial support schemes available to postgraduate students and the heavy

financial burdens that home and family commitments place on the age groups which contain most of the postgraduate students. The proportion of part-time enrolments has been increasing steadily in recent years, as shown in Figure 5.1.

Figure 5.1 Postgraduate students by attendance mode

In the universities there are about 35,000 students enrolled in postgraduate courses with 19 per cent studying for a postgraduate diploma, 31 per cent for a master's degree by coursework, 16 per cent for a master's degree by research and 22 per cent for a Doctor of Philosophy. Smaller numbers are studying for a postgraduate bachelor's degree (7 per cent), a master's degree preliminary course (4 per cent) or a higher doctorate (0.5 per cent). In CAEs there are about 26,500 postgraduate students: 8 per cent are studying for a master's degree and 92 per cent for a graduate diploma. Coursework master's degrees and graduate diplomas in CAEs have been the major levels where growth has occurred. The overall spread of enrolments across levels of study is shown in Figure 5.2 for the years 1980 and 1985.

Since the abolition of tuition fees in 1974, there has been sustained growth in coursework master's degrees while growth in research degrees has been only modest. This pattern is shown in Figure 5.3.

The spread of students across fields of study for universities and CAEs is shown in Figures 5.4 and 5.5 respectively. As is evident

Figure 5.2 Postgraduate students by level of study, 1980 and 1985

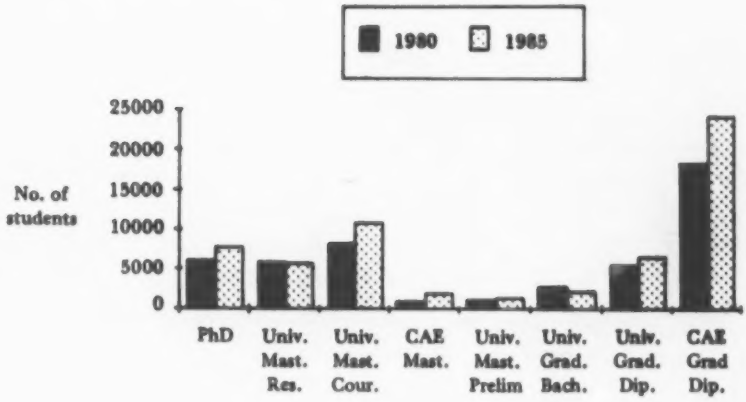
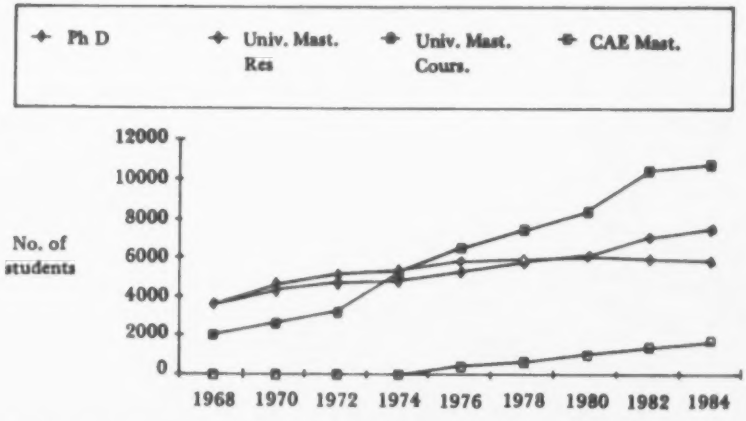


Figure 5.3 Higher degree students by level



from the two years shown, the distribution across fields has not changed substantially over recent years. Most of the growth in numbers over the last five years has been in the fields with the largest enrolments. The major fields in the universities are Arts, Science, Education, and Economics/Commerce and in the CAEs, Education, Commerce/Business, and Applied Science.

70

Figure 5.4 University higher degree students by field, 1980 and 1985

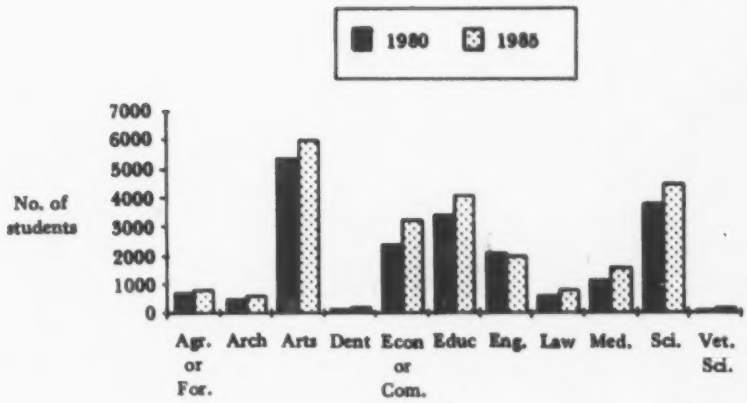
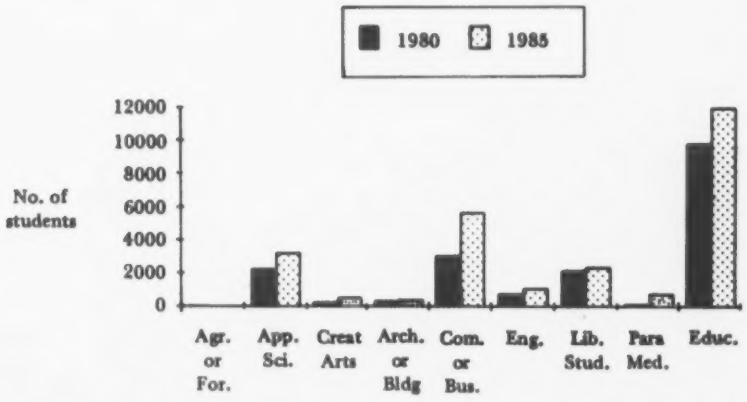


Figure 5.5 CAE Postgraduate students by field, 1980 and 1985



Data on the age and sex of postgraduate students are not readily available. Those data available for university higher degree students are shown in Figures 5.6a and 5.6b.

Figure 5.6a Male university higher degree students by age 1979 and 1984

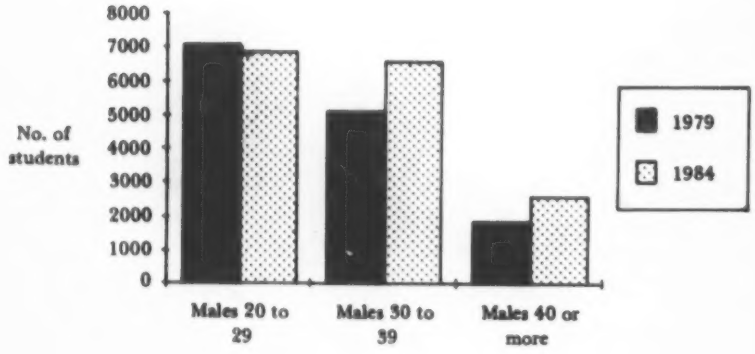
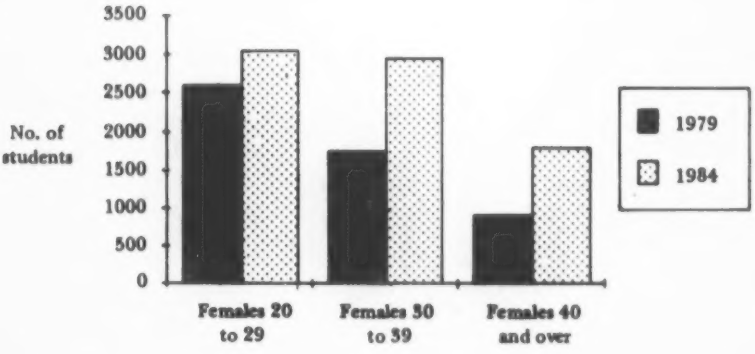


Figure 5.6b Female university higher degree students by age 1979 and 1984



Growth in female student numbers has been greater than for males, and for both males and females the strongest growth has been sustained by the 30-39 age group. Participation by women declines with level of study. Thus women make up about 48 per cent of CAE graduate diploma students but only 22 per cent of CAE master's students; 35 per cent of university coursework master's students but only 28 per cent of doctoral students.

In policy discussions and initiatives on access and equity, postgraduate students have received little attention. Data on the social composition of the postgraduate population have not been collected and even basic information on the distribution of students by age and sex across fields of study is not published routinely. The rapid expansion of postgraduate education since World War II has been unplanned and largely unexamined. It has been driven by a simple mix of student demand and the application of the 'traditional' research values of universities. There is a pressing need for review by institutions and governments of the nature and function of, and consequently the appropriate levels of participation in, both coursework and research programmes at the postgraduate level.

Reasons for Undertaking Postgraduate Study

The research on postgraduate students does not reveal any clear-cut answers about why students undertake postgraduate study as student goals often contain a complex mixture of career and personal purposes. The career goals include extending, updating, or upgrading professional knowledge, and are directed towards such ends as enhancing promotion prospects, getting a better job, and changing career path. The personal goals include status enhancement, and intellectual stimulation and satisfaction from studying a field of interest or pursuing excellence in scholarship. In the past, research degree students were usually aiming for academic appointments but with the stagnation in the academic labour market, this career path is much less clear. As employment in the higher education sector has declined, research degree graduates are increasingly being employed in other parts of the government sector or proceeding overseas for employment or further study. The proportion employed by the private sector has remained low at about 10 per cent. For all graduates, teaching is still the major area of employment, accounting for about 30 per cent of all higher degree graduates. Non-teaching

government employment accounts for about 25 per cent, and the private sector for about 17 per cent. The private sector employs about a quarter of the coursework master's degree graduates.

Progress and Completion Rates

The periods of candidature for postgraduate qualifications vary considerably. Some diploma and master's degrees may be completed in one year's full-time study. Most qualifications take between three and five years part-time study. Candidatures of seven or eight years are not uncommon for part-time PhDs. Systematic data on progress and completion rates have not been collected for postgraduate students but several universities have undertaken institutional studies. These limited data show the need for some concern. For example, after six years of full-time PhD study, only about 50 per cent of students have completed and between 20 and 50 per cent have discontinued.

Quality

Postgraduate courses have wide variations in workload requirements and in standards. There is less uniformity across fields and institutions than at the undergraduate level, and at the research degree level programmes are essentially formulated for individual students. The main mechanism for ensuring quality and comparability in standards is the external examination procedure for research degrees. A thesis is usually examined by at least one academic or researcher from another institution. For PhD theses, it is usual to have internationally-recognised authorities as examiners, and so overseas examiners are common. This practice is held to be vital in maintaining standards for thesis degrees. Thus, it is not just the quality of the final research report that is important, it is also whether or not the examination procedures have clearly been rigorous.

Study at the postgraduate level is a relatively independent and often lonely form of study. All forms of learning require that the learners accept some responsibility for their learning, but at the postgraduate level this responsibility rests most heavily on the student. This is particularly so in the Humanities and Social Sciences where postgraduate student research is much less closely integrated with the

supervisor's or the department's than it is in the Natural Sciences where team research involving postgraduate students is usually the norm. Postgraduate students most commonly report academic problems associated with working in isolation and with supervision although student satisfaction with their course may be greater than the progress and completion data suggest. A survey by Macquarie University found that 80 per cent of students were satisfied with their programme, including 46 per cent of research students but only 21 per cent of coursework students who were "very satisfied". Only 6 per cent of research and 2 per cent of coursework students were "very dissatisfied". Within the fairly high numbers of discontinuing students it is not known how many discontinued through dissatisfaction with the quality of their programmes, as opposed to academic, financial, workload, personal or other reasons. This aspect of postgraduate education in Australia, like so many others, has been almost entirely neglected by policy-makers.

Chapter Six

THE DEBATE ON FEES

James R. Liesch, Helen M. Finlay and Neil Baumgart

Introduction

Australians have often prided themselves on living in an egalitarian society. The abolition of tuition fees for higher education in 1974 and the provision of student assistance for students from low-income families were similarly based on egalitarian principles and promised to provide greater equity in the access to higher education. These policies were conceived during a period of high prosperity. However, events have taken a sharp turn in the intervening twelve years. States have converted teachers' colleges into Commonwealth-funded Colleges of Advanced Education; state teacher education scholarships have been abandoned; economic downturns have slowed government revenue growth; demands for welfare programmes, chief among them unemployment benefits, have burgeoned; and recent increases in retention rates through to the end of secondary schooling have sharpened demand for more places in higher education.

Committed to increasing participation in higher education, particularly for disadvantaged groups, government has nevertheless found the high cost per student of providing additional places, even at marginal costs to be a huge burden. Some additional places have been provided but the available places have not kept pace with demand (see Chapter Two). Moreover, questions have been raised about the effectiveness of tuition-free higher education as a means of increasing equity. If this policy has not affected the mix of students participating in higher education, then it can be argued that the absence of fees results in the poor subsidising the rich in the education of their children. Against this background, the question of whether or not higher education should continue to be free in Australia is a matter of topical debate.

Historical Changes: Fees, Scholarships and Allowances

Prior to 1974, institutions of higher education in Australia did charge tuition fees, although the charge was well below real costs. However, students were able to compete for Commonwealth Scholarships which not only met the costs of fees but also provided a living allowance. Moreover, State governments offered a significant number of Teacher Education Scholarships which covered fees and provided a relatively generous living allowance but bonded holders to teach in government schools for a period equivalent to the duration of the Scholarship. Through the 1950s and 1960s, the availability of Commonwealth Scholarships and particularly the Teacher Education Scholarships afforded opportunities for high achieving students from lower social class strata to obtain a university education, although the distribution of students in higher education was still skewed markedly towards those from more privileged socio-economic backgrounds (see Chapter Three).

In order to encourage more youth of the community to participate in higher education, the national government abolished fees for higher education in 1974 and took over the funding of places in higher education (Williams, 1979). In the previous year, the Students' Assistance Act had been passed, phasing out the Commonwealth Scholarship Scheme and replacing it with a Tertiary Education Assistance Scheme (TEAS). Receipt of TEAS was not competitive as the Commonwealth Scholarships had been, but they were means tested. When TEAS was first introduced, there were still many students on teacher education awards. For example, in 1975, approximately 50,000 held Teacher Education Scholarships (Williams, 1980). The Commonwealth Government also funded Postgraduate Awards and Aboriginal Study Grants (see Chapter Three).

Currently, TEAS (recently renamed AUSTUDY) provides a living allowance based on a scale depending on whether a student is living at home, living away from home, or is independent of his or her family. To be eligible, students must be Australian citizens studying full-time, not committed to an employer and not in receipt of any other Commonwealth Government benefit. They also need to be progressing satisfactorily within the minimum duration of their courses. One difficulty has been that, at least until a recent decision

to bring them into line, financial benefits under the allowance have been less attractive than Unemployment Benefits.

To qualify for the independent rate, an applicant for TEAS must be 25 years of age, an orphan or State ward, married or in a de facto relationship and with a child, or have spent the equivalent of two years full-time in the workforce. For other applicants, eligibility is assessed by an income test applied to the combined gross income of parents for the previous financial year. For 1986, there were approximately 84,000 students receiving allowances under TEAS. However, since the States had phased out Teacher Education Scholarships during the past decade when there had been an oversupply of teachers, the numbers of students supported by scholarships or allowances are considerably lower in 1986 than they were in the mid-1970s.

When fees were abolished and the needs-based student assistance was introduced in 1974, the prevailing hope was that financial barriers to the transition to higher education would be removed. As a corollary, it was expected that bright, poor students would replace "mediocre" middle class students (Brennan, 1971; Anderson *et al.*, 1980). However, the result has been quite different from what was expected. As noted in Chapter Three, the composition of the student body coming from secondary schools to higher education in terms of socio-economic background has not changed. Hence, one conclusion is that the removal of financial barriers as a strategy to improve equity has largely failed. Others might conclude that this strategy is still necessary, but by itself and without further avenues of financial assistance or other incentives, it is not sufficient to reduce inequities in access.

In light of the above, and against limitations on the expansion of higher education because of budgetary constraints, there have been several proponents for the reintroduction of tuition fees. A previous government introduced in the early 1980s proposals for fees for second and higher degrees and a loan scheme to reduce student assistance but these proposals were rejected in the Senate. However, this government was able to implement three measures to contain the costs of higher education. Firstly, allowances and scholarships were allowed to undergo attrition by not being raised in accordance with the rate of inflation. Secondly, amalgamations were forced on several

institutions and some colleges were closed (see Chapter One). Thirdly, governments mandated continued growth in enrolments but restricted increases to appropriations for higher education.

When it was returned to power in 1983, the Labour Government provided for a very modest increment in enrolments from secondary school leavers (see Chapter Two) and for small rises in student assistance. Postgraduate awards were significantly increased but family allowances for students at home not receiving assistance were abolished, making support for marginal families more difficult. Finally, the Minister for Finance strongly urged reintroduction of tuition fees, albeit with exemptions. There followed considerable debate in the community and strong opposition to the idea from the Minister for Education. Eventually, in the 1986 Budget, it was announced that a modest $250 per annum would apply to all students from 1987, regardless of their status (full-time or part-time) or level of degree. The fee was labelled an administrative charge and not a tuition fee but some groups have seen it as a forerunner of more general fees. If it has any effect on enrolments, it will likely discourage traditionally disadvantaged groups. In the meantime, the debate in the community goes on.

It might also be noted that recent governments have effectively introduced high fees for overseas students and also imposed quotas. The fee on overseas students is called an Overseas Student Charge. It is not applied to tuition but is used as a source of general revenue. These charges have been rising at the rate of 15 per cent per annum and are targetted to reach 45 per cent of real costs. In addition, government is encouraging institutions to market special courses for overseas students beyond the normal quota on a full cost-recovery basis.

Naturally, these developments for overseas students have served to complicate the arguments about fees for local students. To be consistent, if the demand for places from qualified local students exceeds the supply (as noted in Chapter Two), why should additional places not be made available through the charging of fees? This reasoning has led to proposals for private universities and colleges and at least one such proposal has reached a well-developed stage.

Using Fees to Expand Higher Education

A range of arguments has been advanced for the reintroduction of fees. .At the crudest level, there are arguments that market forces should apply and that places in higher education should be traded. Such arguments point to relatively low acceptance rates of offers of places (see Chapter Two) and high drop-out rates (see Chapter Nine) as evidence of the under-valuing of higher education. These arguments and their conclusions, however, tend to understate the social benefits of higher education and to emphasize its private benefits.

Blandy, a researcher who initiated the debate on the reintroduction of fees at the time of the Inquiry into Education, Training and Employment (Williams, 1979), argued that the system needed to be more accountable and more flexible. If the purpose of higher education is principally to encourage economic growth, then the community subsidizes groups of young people from predominantly middle and upper income groups if higher education is free. Also, Blandy saw the reintroduction of fees as a means whereby institutions could regain their former autonomy instead of being controlled as part of the overall system of higher education (Blandy, 1979).

Others claim that expanding higher education will be more effective than reducing financial barriers in seeking to make access more equitable. They point out that the abolition of fees in Australia did not lead to the edging out of mediocre middle class students by brighter, poorer students. In contrast, in other countries like the U.S.A. with higher participation rates and with tuition fees, a more equitable distribution of students in higher education has been achieved. Under the present economic climate, the charging of tuition fees offers some hope for modest expansion of the system (although it has to assume some benevolence on the part of government) which is unlikely to be achieved by seeking revenue from other sources.

At the school level in Australia, approximately 25 per cent of students attend private schools where fees are charged. Indeed, many parents of private school students pay $3,000 to $5,000 annually for highly disciplined preparation for the competition to enter higher education. Thus, it is argued, at least some parents should be able and willing to pay fees say at least of the order of $1,000 to $2,000 per annum for higher education. Even if 40 per cent of

students were exempt from fees and a further 20 per cent paid only partial fees (figures suggested by the Minister for Finance during the debate), a rough estimate suggests that fees of this order of magnitude, if dedicated to funding new places, could allow approximately 50,000 additional students into the system. Combined with "targetting" of low participation groups, such an expansion of enrolments, it is argued, could make considerable headway in the drive towards greater equity. In summary, if about 50 per cent of students paid a quarter of the cost of their tuition (as was the case in 1973), now at just over $6,000 per year, the aggregate new income would be between $250 and $300 million. Admittedly, this is an optimistic figure and provision would need to be made for additional capital costs. Also, there would be strong arguments to use some of the revenue for other purposes including the provision of scholarships and remedial assistance for disadvantaged students. Perhaps the greatest danger is that government would seek to reduce its investment in higher education. Nevertheless, it can be argued that there is a decided potential for increase in participation far greater than that described in Chapter 2 (2,000 to 3,000 per year).

An unwanted outcome of the reintroduction of fees could be to prejudice the enrolment of women, and mature age women in particular. This is a group which has probably benefitted most from the abolition of fees in the past decade. If this important gain in equity is not to be lost, women's enrolments would need to be monitored and policies adjusted as necessary.

Proponents of the reintroduction of fees have to confront the political sensitivity of their proposals. Hence, some would argue that, not only should the fees be partial, but they should be publicly seen to be so. Moreover, the fees should be seen to provide new places, and essentially free places, for the less affluent and low participation groups. In this way, it is argued, the potential for greater equity is considerable. However, great care would be needed to project an image of enlarged opportunity and greater equity rather than one of inaccessibility. If the current, low incremental increase of places is a "disappointing failure" (Linke, 1986), then a *new* source of finance is needed to turn the situation around. Given that advantaged groups have an established position in higher education which is unlikely to be dislodged, it is argued that only an expansion of participation will improve equity.

Arguments Against Fees

The arguments against fees are also presented on several levels. Thus, some educators acknowledge that fees could be used to improve access through the provision of more places and an increase in student allowances or scholarships for target groups, but they are sceptical about whether government would see these as the highest priorities. Thus, they argue, governments might not wish fees to go to new initiatives but be seen as a means of reducing the high financial burden of higher education. A precedent is readily found in the Overseas Student Charge which, although ostensibly a fee, finds its way into consolidated revenue.

Other arguments against fees point to evidence of very real financial hardship for some students and its incidence as a key factor in drop-out. Even more important, it is argued, is the subtle influence that the charging of fees would have on parental attitudes for students from low-income families, where it has been shown that parental expectations play a crucial role in determining the value placed on higher education. Perception of further financial barriers to higher education only serve to make it more remote and lessen the possibility that it will be seriously considered as an option by parents from disadvantaged groups. One study of the transition to tertiary education of young Victorians and Western Australians showed that positive parental encouragement was one of the main predictors of entry to full-time tertiary study, followed in turn by actual Year 12 results and then by occupational aspirations (Beswick *et al.*, 1983). Elsworth and Day (1983) reported that rural students in Victoria were more likely to decline or defer offers of a place in higher education because of perceived costs. This was especially true for female students who also perceived fewer career benefits. Carpenter and Western (1982) have argued that parental socio-economic status is transmitted to offspring by means of a socio-psychological process which plays a crucial role in developing and patterning aspirations.

In summary, then, it is argued that the imposition of fees not only imposes real hardships for some students, but it can have a more subtle influence on perceptions and expectations about future participation in higher education.

Current Strategies to Improve Equity

In recent years in Australia, participation in higher education has moved from being driven by demand to being driven by funding. Although current policies still stress greater participation and more equity of access, constraints on funding serve to moderate any proposals.

Attempts to improve equity are currently operationalised through five measures. They differ from those at the level of compulsory schooling and should not be confused with them. The measures are as follows:

(1) encouragement for greater participation in upper secondary schooling through broadening of curricula and other measures so that better opportunities to compete for places in higher education are available to disadvantaged students;

(2) removal of financial barriers to participation in higher education, chiefly fee abolition and the provision of a single needs-based subsistence allowance (TEAS);

(3) student support services within universities and colleges;

(4) financial assistance to students from low-income families to encourage the completion of secondary education (the Secondary Allowance Scheme); and

(5) the "targetting" of particular low participation groups, such as Aborigines.

This chapter has noted that these measures alone have not been sufficient to equalise access, particularly by low socio-economic groups. In particular, the equalisation of access to deprived segments of society has not been achieved by the removal of financial barriers such as the abolition of fees in 1973. It seems that more positive incentives and strategies are required and this chapter has explored the *expansion* of higher education as one such strategy. The difficulty lies in achieving this in a time of financial constraint. The system has recently emphasised improved efficiency and greater productivity as a means of achieving greater participation. Thus the Commonwealth Tertiary Education Commission is presently completing an efficiency review of the whole system and individual institutions and departments have undergone similar appraisals. Another strategy

currently in use has been a modest increase of places available through the provision of additional grants to selected institutions (see Chapter Two). The State of Victoria has a plan to extend this approach by funding 1,500 extra places over the next three years from the Victorian welfare budget. This chapter has discussed one other strategy which has come under considerable public debate – the reintroduction of fees as a means of expanding higher education.

The reintroduction of fees is admittedly an unpopular proposal with students, their parents, staff associations and the majority of the present government. However, recognition that expansion of higher education may be the most viable path to genuine progress to equality has led to continued discussion on the use of fees as a means of providing finance-driven expansion. The debate looks set to continue for some time to come.

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Chapter Seven

QUALITY IN HIGHER EDUCATION: INPUTS

Neil Baumgart and Laurens Kaluge

A Basis for Defining Quality

The meaning of quality is different for different people. Peters (1969) indicated that Plato and Aristotle used quality to pick out what was distinctive of a thing, its "essence". But in its popular use, quality implies a form of excellence or something that rises above mediocrity.

One very important issue in discussing quality is the difference between two competing conceptions. Strike (1985) drew attention to these different views by using terms from educational testing and thus contrasting a "norm-referenced" approach and a "criterion-referenced" approach to excellence or quality. In a norm-referenced approach, only a small group is regarded as excellent or of best quality and the judgment is made through comparisons with their peers. In this sense, people or institutions are in competition and not everyone can be designated as excellent. This conception of quality may conflict with notions of equity since here quality is perceived as selective or 'elitist' while equity is 'populist'.

The opposing view, that quality can be conceived in criterion-referenced terms, argues that excellence can be recognised or defined independently of the performance of others. Thus a system of higher education might aim at high standards and exceptional quality, implying high levels of proficiency throughout the system. Clearly, this conception rests more easily with popular notions of equity.

In practice, the two conceptions are mixed in complex ways. Thus Glass (1978), in writing about the determination of standards in testing, warned against exclusive use of absolute levels of performance without reference to actual performances by target groups. Similarly, in determining standards or levels of quality in higher education, there are no clear-cut or absolute criteria. Judgements

about the quality of institutions – whether on their inputs, processes or outputs – inevitably rest partly on an assessment of the worth of some facet in absolute terms and partly on comparisons with other institutions in the system.

Although it is possible to define indices of quality to cover the teaching, research and service functions of institutions of higher education (Donald, 1984), or to derive other indices of efficiency and effectiveness, interpretation of such measures in norm-referenced terms is hedged with difficulties. Compared with the United States or with most Asian countries, Australia has a relatively homogeneous set of institutions of higher education. This stems partly from having a highly centralised system and partly from the absence as yet of private colleges or universities. Nevertheless, institutions do differ with respect to the ability levels of entering students, the qualifications of staff, research output, publication and citation rates, employability of graduates, and so on. However, such differences may be explained by several factors over which the institutions have little control – the particular mix of faculties, the purposes for offering some programmes, the institution's stage of development, geographic differences and the socio-political environment.

Two other factors make it difficult for Australian institutions to respond flexibly in attempts to improve quality. *Firstly,* funding and student quotas are controlled centrally. Although individual institutions make submissions prior to the production of triennial reports by CTEC, their only flexibility lies in the internal allocation of resources and student load. Government has recently encouraged institutions to seek funds from other sources, including the marketing of courses off-shore. The future of such ventures remains unsure. *Secondly,* a very high proportion (over 85 per cent) of faculty members are tenured. Although it is current policy to reduce this figure, this is being achieved by offering a high proportion of advertised positions on three to five year contracts. While this will have the desirable effect of reducing the proportion of tenured staff overall, it is introducing other distortions and inequities into the system.

Perspectives on Quality

Views of the quality of higher education also depend on the vantage points of those making the judgments. Thus, for example,

economists, sociologists and educators use different perspectives in explaining the meaning of quality (Beeby, 1966; Beeby, 1969).

An economic perspective

The economists tend to determine educational quality in terms of the relationship between inputs and outputs, and the relevance of outputs to the need for graduates in different sectors of the workforce. Low quality can result from inefficient use of resources or from maladjustments between the supply of graduates and human resource needs in the economy. As noted by Harbison (1974), although a country's needs might be "determined by the manpower assessment and represent the country's manpower or educational requirements to meet specific social, political and economic goals, . . . demand reflects individual desires . . . for given types of education". A mismatch often results.

In 1985, faced with severe funding constraints, CTEC instituted a Review of Efficiency and Effectiveness in Higher Education. This was one example of a concern for quality from an economic viewpoint. Another example, this time of the mismatch between the demand and supply of graduates, was the over-supply of teachers which resulted in the late 1970s. The system sought to correct this state of affairs (one of low quality in economic terms) through limiting enrolments and through structural changes such as the amalgamations of some institutions and the diversification of fields of study in others which had previously been solely concerned with teacher education. However, following a period where new graduates were unable to secure jobs as teachers, numbers in courses fell dramatically and well below imposed quotas. This over-reaction on the supply side meant that by the mid-1980s some school systems reported shortages of teachers, particularly in some fields, and *post hoc* training and recruitment measures were needed.

A sociological perspective

The sociologists might see quality as the extent to which institutions achieve the goal of attaining a more mobile society. Higher education should benefit not only participating students but also the whole society. Whether institutions should generate and foster social change or whether they should simply keep pace with the evolving society are matters for philosophical and political debate. But in as

much as universities and colleges prepare their graduates for future leadership, they need to come to terms with the processes of socialization and development within a society which is changing rapidly in social and technological terms.

In a concrete way, Australian institutions seek to improve their quality in sociological terms by encouraging public debate on social change, rendering public service, engaging in research relevant to technological and social change, and providing forms of continuing education (see Chapter Ten). In a more abstract way, their quality might be judged by the reputation they earn for rendering service to the community and by their ability to fuse good relationships and encourage understanding between the system of higher education and the society at large. In the Australian context, it is probably particular faculties or departments which earn this kind of reputation for quality performance. Thus, in 1982, government designated a number of Centres of Excellence (later called Special Research Centres) and provided additional funding for their activities (see Chapter Ten).

An educational perspective

Educators might see quality in terms of the richness of the teaching-learning process and the ability of graduates to problem-solve and to think critically. In Australia, whereas an intensive (3 or 4 years) training programme has been considered necessary for persons to qualify for teaching in primary and secondary schools, no such requirement has applied to staff in higher education. They are recruited for their academic prowess and may receive a brief period of induction but formal training programmes in teaching are the exception rather than the rule.

One attempt to improve the quality of instruction led to the setting up of centres for teaching and learning in various institutions, particularly in the late 1960s and early 1970s. However, in recent years with financial cut-backs in operation, these centres have proved vulnerable and some have even been disbanded (see Chapter Eight).

Conceptions of Quality

Astin (1980) has provided one set of categories to assist in operationalising quality in higher education. Thus he has distingui-

shed the mystical view, the reputational view, the resources view, the outcomes view, and the value-added view.

By the mystical view, Astin refers to an argument that the outcomes of higher education are "too subtle" to be subject to valid measurement. This is a view often heard in the Australian context. For example, in a submission to the CTEC Review of Efficiency and Effectiveness in Higher Education, the Australian Vice-Chancellors' Committee (AVCC) argued as follows

> The AVCC believes that the definition of quality and excellence embraces more than that which can be measured by quantitative indicators, and that the issue of academic excellence must not be subordinated to issues of immediately measurable cost-effectiveness.

Astin argued that decisions *are* made constantly on aspects of quality and that it is better to seek to improve the measures rather than to rule them out as unrealistic.

The reputational view, one based on opinions held, may be stronger in a North American context than in Australia. While some Australian institutions clearly enjoy a higher reputation than others as evidenced by student demand for places and the consequent differential in cut-off scores for entry, there is not quite the same fetish to rank institutions that one finds in the United States (for example, Knudsen and Vaughan, 1969; Lawrence and Green, 1980; Conrad and Blackburn, 1985). As noted earlier, Australian institutions are fairly homogeneous and where differences in quality are evident, these can often be related to other factors such as age, geographical location or programme offerings.

Astin noted that the resources view traditionally relies on three indicators – quality of students, quality of staff and level of affluence. Each of these can be viewed as inputs and they are discussed further later in this chapter.

The outcomes view as discussed by Astin focuses on the quality of products: the graduates. Measures here include work histories of graduates, their earnings and their subsequent achievements. Astin rightly notes that differences in such indicators may well be explained by factors other than the quality of programmes, including, for example, the quality and other characteristics of the student intake.

This last criticism cannot be levelled at the value-added view which seeks specifically to assess the impact of the institution.

Astin questioned whether any of these measures really reflect what is meant by quality, and even if they do, whether they provide any useful suggestions for improving quality. He then argued for a view of quality based on the worth of students' learning experiences. His contention that quality measures should focus on strategies to improve teaching and learning is an attractive one. Of course, a wider perspective that includes the quality of research and of community service is also warranted. But the difficult question remains of how to improve quality against a background of limited resources, rigidity in the system and even financial cut-backs. Where resources are plentiful, suggestions for the improvement of quality can be far-reaching; but where resources are severely restricted, difficult decisions about allocation among competing needs are required. Moreover, this often brings concerns for quality into direct conflict with concerns for equity since disadvantaged students will require extra resources to achieve at desired levels.

The remainder of this chapter is given to a discussion of variations in inputs to institutions of higher education in Australia and to the implications for quality control.

Inputs to Higher Education

Financial allocation

In the early 1960s, Australian governments spent less than three per cent of total gross domestic product (GDP) on education. The share of GDP spent on education then increased strongly over the next 15 years, peaking at 6.3 per cent in 1977-1978, before changing to a pattern of steady decline. In 1983-1984, governments spent 5.8 per cent of GDP on education and government outlays on education were 7.5 per cent of total government outlays.

Reasons for the recent decline and its significance relative to a huge growth in the size of the public sector relative to the rest of the economy are explored in Chapter 13. However, it is worth noting here that the share of higher education within the education sector has dropped sharply in recent years. Thus, in 1972-1973, university education was allotted 16.3 per cent of all public expenditure on

education while the CAE sector received 11.8 per cent. A decade later, the corresponding figures were 12.2 per cent and 8.3 per cent (see Figure 7.1). As a result, Australian higher education, with restricted financial inputs over recent years, entered a period of steady state and then one of decline.

Figure 7.1a Government expenditure on education, 1972-1973

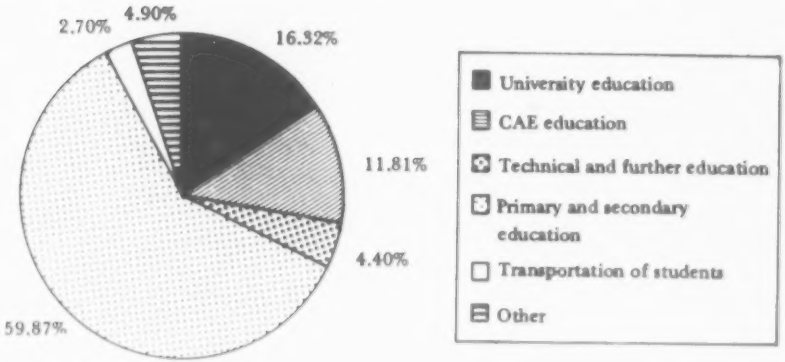
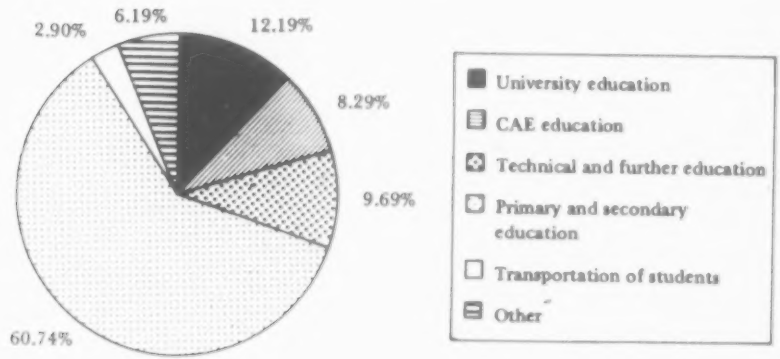


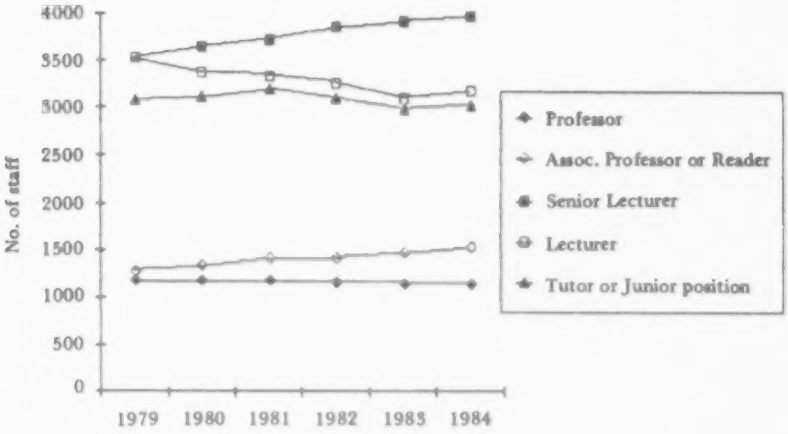
Figure 7.1b Government expenditure on education, 1982-1983



Staffing

At the same time, academic staffing has been relatively static with limited opportunities to make new and younger appointments. Hence the system has been subject to a degree of "incremental creep". For example, between 1979 and 1984, the proportion of full-time academic staff in universities at the level of "Senior Lecturer and above" rose from 52 per cent to 60 per cent. The trends are shown in Figure 7.2 where it is evident that, since 1979, the numbers of more senior academic staff (with the exception of professors) have been increasing while those of junior staff have decreased or remained relatively constant. The opposite trends for Lecturers and Senior Lecturers are most pronounced.

Figure 7.2 Trends in academic staff in universities by level, 1979 to 1984



One interpretation of the above trends is that academic staff are now more experienced and that this is an indication of increasing quality. However, the benefits of having more experienced staff are offset by the inability to bring in "new blood" and by lowered morale amongst an ageing staff with a significant proportion looking forward to retirement.

Academic staff profiles are very different for men and women, with males having much higher representation at the senior levels in

both universities and CAEs. Figures 7.3a and 7.3b show the distributions by rank for universities and CAEs for 1984.

Figure 7.3a Distribution of full-time academic staff by sex and rank in universities, 1984

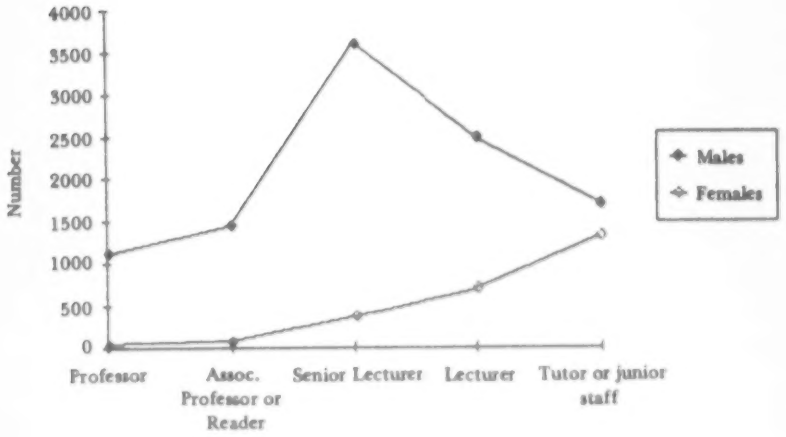
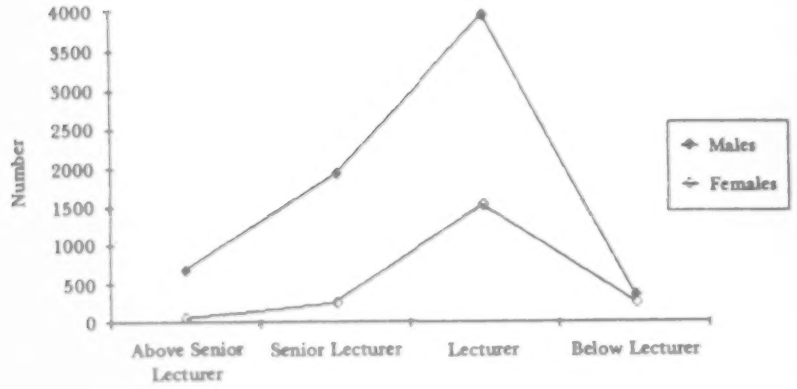


Figure 7.3b Distribution of full-time academic staff by sex and rank in CAEs, 1984



Although there are still relatively few female academics compared to males, higher education institutions in Australia have adopted policies of Equal Employment Opportunity and sought strategies for affirmative action. Legislation at the state level has regular reporting and monitoring of these policies. The trend lines in Figure 7.4 afford some evidence of an effect from these policies with female academic staff in universities growing at a greater rate than the male. However, the constraints on the whole system and the need to offer many new staff short-term contracts rather than tenured appointments have served to attenuate the gains.

Figure 7.4 Trends in the distribution of staff by sex, 1979-1984

Research funding

Chapter Ten discusses in more detail a downturn in input to research from regular CTEC sources, the need for more funding from private sources, and implications for the quality of research and the nature of the research tasks undertaken.

Equipment expenditure

A major problem now facing Australian higher education on the inputs side is the inadequate provision to replace obsolete equipment and to extend equipment in line with recent advances in technology. These difficulties are discussed in Chapter Twelve.

Chapter Eight

IMPROVING TEACHING AND LEARNING

Elinor Smith and Neil Baumgart

Introduction

Chapter Seven looked at some of the concepts of quality in higher education and considered *inputs* to higher education as one index of quality. This chapter will discuss some of the *processes* at work in higher education and how these might be assessed and used to give an indication of the quality of an institution.

Quality of Staff Activities

Staff qualifications and levels of appointment (see Chapter Seven) provide one measure of quality (an input) but these are not necessarily related to performance on the job. Donald (1984) investigated the procedures and criteria for the evaluation of faculty in higher education institutions and suggested indices of quality to cover the three main roles of academic staff – research, teaching and service (including administration). Although Donald was describing the Canadian situation, her indices are applicable in the Australian context. *Research* has traditionally been the most emphasised area in the evaluation of academic staff. The most frequently used criteria for looking at the quality of research have been the number of publications and citations, although the number, size and length of research grants have gained prominence, especially since the funding of research has suffered severe cutbacks and therefore become more competitive.

Many of the factors which influence *teaching* effectiveness (for example, the students' ability to learn, the physical environment of the institution) are not under the control of the academic. Nevertheless, as Donald claimed, institutions appear to be coming closer to an understanding of what constitutes good teaching, and recognition of important teaching elements such as organisation and

clarity, instructor knowledge, the ability to stimulate students, and group instructional skills are increasingly found among higher education teachers.

Student ratings of the effectiveness of lecturers are far more common in North America than in Australia although some institutions (for example, the Western Australian Institute of Technology) have devised scales which are available for feedback to lecturers and can be used in evidence for promotion. In some other institutions in Australia, ratings by students are used more informally, for example, in student publications about courses. Research has shown that student evaluations are fairly consistent from year to year, although care must be taken in interpreting the results of these evaluations as measures of the quality of teaching, since the input from a teacher is but one aspect of the teaching/learning environment. Donald (1984) pointed out that research has shown that student ratings do not tend to correlate highly either with peer evaluations or with student ability.

Indices of the quality of service by faculty members incorporate not only work within the institution but also in the academic profession and in the community. Thus, within the institution, consideration might be given to participation in institution-wide committees, administrative tasks, effective chairing of meetings, and so on. Beyond the campus, production of teaching materials, holding office in professional associations, editing journals and professional consulting are activities bringing recognition and credit within the profession. In Australia, it would be rate for such activities to be included in any quantitative index, but their listing on a *curriculum vitae* is taken into account in appointments and promotions.

If research, teaching and service activities are important indicators of staff quality, how can staff increase their own levels of quality? One important way is to participate in staff development activities. This is particularly important in higher education in Australia, since, unlike other levels of education, preservice teacher education is not a requirement for teaching in higher education. The next section discusses some aspects of staff development in higher education in Australia.

Staff Development

What is Staff Development?

The Australian Vice-Chancellors' Committee (1981) defined staff development as "those policies, procedures and programmes which assist academic staff to meet more fully their own needs as well as those of their students and their institution". This definition embodies the development of all the diverse roles which an academic has to perform: teaching, research and administration.

However, in Australia, the main interest among staff developers has centred on the teaching role, with little emphasis placed on improving performance in research or administration (Foster and Roe, 1979). This concern with the teaching role stems from the realisation noted above that many teachers in higher education have had no formal "teacher training" (except perhaps those involved in the teaching of Education subjects). Up until now, teaching skills have been seen as a by-product of scholarship and competence in research (Foster and Roe, 1979) and teaching has had a secondary role to research.

The benefits of staff development are clear: a well-developed staff development programme can not only improve the quality of teaching, research and administration of an individual staff member, but also, therefore, the quality of the outputs from an institution, namely, the quality of the students graduating. This is an important issue in today's climate of institutional accountability, where both the government and the tax payers want to see "value" for the tax-dollar spent on higher education. (Note the recent debate on who should pay, the tax payers or the "users", and the proposal for the reintroduction of fees discussed in Chapter Six). Cannon (1983) suggested that much disquiet has been expressed by governments and the general public about the quality of teaching in all sectors of education. This disquiet has led to formal recommendations from such government sponsored committees of enquiry and commissions as the Murray Report (1957), the Martin Report (1964), the Australian Universities Commission (1972), the Williams Report (1979), and the Australian Vice-Chancellors' Committee (1979) that teaching should be improved.

The Provision of Staff Development

Staff development units (also called research and development units, centres for teaching and learning, education research centres, and so on) have been set up in most higher education institutions as autonomous bodies within the institutional structure. They work with and for the faculties, departments and administration (Roe, 1980) but hold no allegiance to any particular section of the institution. Each unit has a Director, usually paid at the professorial level, usually one or more senior academic staff, plus support staff.

In Australia, the government has previously expressed much support for staff development and many institutions have been able to set up staff development units. In 1984, there were units in most universities and the larger institutes of technology (Moses, 1985) although the proportion of units in CAEs was smaller. One reason given for this is that, as former staff of teachers colleges, CAE staff are not seen to have as great a need for development, at least as far as teaching skills are concerned (Foster and Roe, 1979).

What Staff Development Units Provide

Staff development units generally provide advice, information, courses on teaching methods, evaluation, and sometimes audiovisual services, to the institutional community (Moses, 1985). Very often they also conduct research into aspects of academic life, which provides valuable data on topics pertinent to staff development. Services which a staff development unit could provide are listed by Foster and Roe (1979) as:

- clearinghouse for information;
- library for local use;
- newsletter publication;
- reading, study skills and other training for students;
- formal courses leading to qualification;
- short informal courses;
- seminars, workshops and discussions;
- packaged materials, such as self-instructional programmes;
- consultations with individual staff members;
- evaluation of teaching and of subjects and courses;
- assistance with course and curriculum planning;

- advice on policy matters;
- descriptive research; and
- theoretical and experimental research.

Table 8.1. "Best" ways for improving teaching

Target group	*Approach*	*Number of times mentioned*
1. Staff		
(i) Individuals	Consultation	7
	Subject evaluation	4
	Evaluation of teaching	3
	Fellowship, secondment to unit	3
	Dip. Ed.	2
	Collaborative research and publication	2
	Hand-on experience with new information technology, self service workroom	2
	Teaching development grant	1
	Secondment of academic staff to unit	1
(ii) Groups	Workshop for staff or sub-set of staff	4
	Departmental review	1
	Departmental planning and development	1
	Workshop/seminar on specific topics	6
	Workshop/seminar for heads of departments	1
	Induction programme for new staff	2
	Conference for senior staff	1
	Conference with involvement of local academics	1
(iii) General academic community	Newsletter articles on teaching	1
	Being available and visible on campus	1
2. Courses, curriculum	Course and curriculum review	8
	Curriculum design and development	5
	Working with course teams	1
3. Institution	Designing institutional procedures for approval and monitoring academic progress	1
4. Students	Work with tutors to increase learning skills of students	1

Source: Moses (1985)

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Of course, individual units may not provide all of the above services, but most common are short informal courses; seminars, workshops and discussions; consultations with individual staff members; and evaluation of teaching, subjects and courses. Individual components of the above list of services can be seen to be aimed at different audiences within the institution: individual staff members, groups of staff, the general academic community, the institution and students, all of whom are potential clients of a staff development unit.

Moses (1985) surveyed 23 directors of staff development units in Australia. Table 8.1 shows the responses of 17 of them to the question of what are the best ways to improve teaching, by the respective target groups involved.

The content of these types of programmes is generally based on current staff needs and motivation, teaching skills and teaching roles. The staff developers try to take account of the type of staff attending, and of the characteristics of the institution and its courses, so that the appropriate content and skills are examined (Paget, 1978).

Staff development is one avenue open to academics to keep up-to-date with changes which affect their working environment. Every academic staff member in an institution with a staff development unit has this opportunity, but, as will be discussed later, encouraging staff to avail themselves of this opportunity is not an easy task.

Another benefit of staff development which is often mentioned by participants is the removal of the individual from isolation they may feel in their working environment. As staff development, by its very nature, involves "change", "the process of change can be a threatening and uncomfortable experience, and in-service training can provide a supportive climate for this change" (Paget, 1978).

Some Issues in Staff Development

Studies have shown that, although staff express an interest in staff development and see it as a positive aspect of institutional life, getting staff to actually participate in staff development activities is another matter (Moses, 1985). It is usually the staff who appear to need it least, that is, those who are already "good"

teachers, who participate while the poorer teachers stay away. It could be hypothesised that the better teachers are those who are more aware of the importance of the teaching role, and hence wish to increase their involvement by learning more about it. Alternatively, the poorer teachers may be frightened that the "assessment" implied in many staff development activities could lead to a lowering of their status in the eyes of their peers and the institution. Whatever the reason, the fact remains that attendance at staff development activities is normally very small.

A suggestion has been made by several writers (Cannon, 1983; Paget, 1978; Moses, 1985) that the attitudes of the institution have a considerable influence on the acceptance of inservice training programmes. Thus, "teaching will always have a low priority for the individual if it is seen to have low priority and to accord little status within the institution" (Paget, 1979).

It follows that one way to increase participation in staff development activities would be for the institutions to consider teaching excellence, as well as research excellence, as a prerequisite for tenure and promotion. Although lip-service is paid to the former, perhaps because it is more difficult to assess, the latter is perceived to dominate.

Another issue involving staff participation is whether attendance at staff development activities should be compulsory or voluntary. The Australian Vice-Chancellors' Committee recommended "a programme of induction for new staff members which commences for each staff member on arrival in post, and continues throughout the first year of service. Participation in such programmes should be a condition of appointment" (AVCC, 1981). This is one way to ensure that new academic staff have at least some instruction in the art of teaching in higher education, especially those who have not previously held an academic post.

That is all very well for new staff, but what about the others? Should attendance at some staff development activities be compulsory for them? Bradley (1983) pointed out that a voluntary programme means that the same groups of keen staff members continually avail themselves of the opportunities presented, while others who might be facing serious difficulties are reluctant to come forward and hence are neglected. When Moses (1985) interviewed

staff on this matter, she found a division among them as to whether compulsory attendance might achieve something, or whether it would be an infringement of academic freedom.

Until now in Australia, the emphasis in staff development has been on the improvement of teaching. However, academics need administrative and research skills as well. As Bradley (1983) said, "the acquisition of administrative and managerial expertise has tended to rely in a large part to inspired amateurism". Therefore, staff development activities which improve administrative skills, especially for departmental heads who spend much of their time administrating, must improve the quality of their work to the benefit of the individual, the department and the institution. Many staff development units do incorporate into their programmes seminars and workshops on administrative skills, and also research skills, but perhaps there should be as much emphasis on these as on teaching skills.

Measuring Effectiveness

It is often argued that staff development programmes cater primarily for an ambitious few, and not at all for those who cannot or will not see a need for improvement in their performance. Effective programmes must assist not only these two extreme groups, but also those in the middle who are performing at a reasonable level but who could benefit from such programmes (Bradley, 1983). Moses (1985) suggested that, currently, effectiveness is judged at the level of reaction only. It is usual for staff developers to ask for an evaluation of a programme from the participants, but rare for the effects on students' learning, research or administration to be assessed. As Moses expressed it, "we tend to equate the extent of use made of our services with our effectiveness".

An increasing use is being made, however, of student evaluations of courses and lectures to pinpoint areas of strength and weakness, both in teaching and curriculum. Once again, though, it is usually the more competent and aware academics who conduct these evaluations. Student evaluations must be regarded as an important method of measuring the effectiveness of staff development programmes in improving teaching skills, and hence learning skills, in students.

Due to the voluntary nature of participation in staff development activities and the closely guarded autonomy of staff and institutions, formal measurements of the effectiveness of staff development programmes are difficult to introduce (for example, pre- and post-testing skills learnt in a course). Indeed, many would raise the question of whether such measurements are necessary. It would surely be advantageous, however, for the staff developers to know whether a programme had the desired effect of improving or enhancing the proficiency of the participants, or whether it had totally missed the mark.

Staff Development for Non-Academic Staff

Until recently, the needs of non-academic staff have been ignored by staff developers and institutions alike, as is evidenced by the lack of literature on the topic. Staff development has been provided for academic staff only. However, administrators and support staff also have a need for staff development, and a right to expect their institution to provide an opportunity for them to improve their skills and to learn new ones. Institutions usually provide generous incentives for academic staff to engage in staff development activities – paid study leave, time off work to attend lectures and seminars, and so on. Non-academic staff have so far been neglected in this respect, although the situation is slowly changing.

Student/Staff Ratios

It has been suggested that student/staff ratios provide another way of measuring the quality of an institution. The assumption is that the fewer students there are per staff member, the higher the quality of the institution. However, research on class size at the school level is inconclusive on this point.

The difficulty is that many other factors affect quality and student/staff ratio alone gives little indication of the quality of instruction. Variations are expected across faculties because different teaching methods are employed with some faculties requiring supervised practical work, others needing small group interaction, and yet others relying on large lecture classes. However, variations across institutions are more difficult to explain, particularly when the comparisons are made within faculties. Table 8.2 provides data

Table 8.2. Student/staff ratios in selected faculties for all 19 universities, 1984

University	Faculty							
	Languages	*Humanities (other)*	*Economics*	*Education*	*Engineering*	*Medicine*	*Science*	*All Faculties*
Sydney	10.3	15.4	17.5	15.7	12.1	9.2	10.0	14.6
New South Wales	9.3	16.2	18.8	9.6	11.3	9.7	9.5	14.2
New England	11.2	13.8	16.7	12.8	–	–	7.5	14.7
Newcastle	8.4	12.2	18.0	11.4	11.4	8.5	9.2	13.2
Macquarie	10.6	14.1	22.6	10.6	–	–	9.7	15.0
Wollongong	8.8	15.5	26.3	15.9	15.9	–	14.3	18.6
Melbourne	11.2	17.4	22.6	17.6	11.6	9.8	11.2	15.9
Monash	9.4	15.1	18.2	17.7	11.5	9.7	11.9	15.0
La Trobe	10.0	15.8	19.9	16.0	–	–	11.5	15.4
Deakin	–	15.3	18.9	12.0	3.5	0	12.3	16.4
Queensland	11.9	14.8	21.4	16.0	12.2	11.1	10.2	13.9
James Cook	4.8	10.7	11.2	8.4	6.2	–	7.5	9.2
Griffith	13.1	14.5	16.8	–	–	–	10.9	14.5
Adelaide	12.7	12.8	17.3	11.4	9.1	9.7	9.5	12.9
Flinders	9.9	13.4	16.4	17.9	–	6.9	9.7	12.6
Western Australia	8.8	19.1	21.5	13.6	12.8	9.0	11.6	14.9
Murdoch	7.7	17.3	14.3	13.9	–	–	10.9	13.2
Tasmania	8.3	10.9	26.0	17.2	9.4	6.2	9.7	12.6
Australian National	6.9	13.6	17.7	–	–	–	8.4	16.0

on student/staff ratios in seven areas of study across the 19 Australian universities for 1984. For total enrolments, student/staff ratios vary from 9.2 (James Cook University of North Queensland) to 18.6 (University of Wollongong). To what extent these differences reflect efficiency, quality, faculty mix, stage of development, or simply historical changes in patterns of enrolments is a matter for speculation. But even within faculties, the differences are fairly pronounced. For languages, the figures range from 4.8 (James Cook) to 12.7 (Adelaide); for Economics, from 11.2 (James Cook) to 26.3 (Wollongong); for Engineering, from 3.5 (Deakin) to 15.9 (Wollongong); and for Medicine, from 6.2 (Tasmania) to 11.1 (Queensland). Unless there are other explanations (for example, a programme being phased out), figures well above the mean probably signal difficulties in responding to expanding enrolments and those well below probably indicate some inefficiency, perhaps resulting from lack of flexibility in staffing as a result of the sytem of tenure. Variations in unit costs across institutions are discussed in Chapter 11.

Staff Ranks

Profiles of staff ranks or ages can be similarly misleading if used as an index of quality. Chapter Seven outlined changes in the distribution of staff in universities and CAEs in recent years, as well as changes in the ratio of male to female staff, and noted problems associated with the changes.

Student Services

A high quality institution could be expected to look after the welfare of its student population by providing student services. It is usual for Australian institutions to have a Student Health Service, a Student Counselling Service and perhaps a Careers and Appointments Service. These services are provided free of charge to undergraduate and postgraduate students. In some cases, staff may use these services too, although they may be charged a fee. Many institutions also provide student loans, at low interest, which can be applied for by students in financial need.

Student Workload

The quality of an institution also depends on the quality of its students. Hence, highly selective institutions or faculties earn a reputation for high quality. Research on "time-on-task" suggests that students learn better and more the longer they spend on a task.

Extrapolating to higher education, it might be claimed that, other things being equal, student workload is a measure of the quality of student achievement. Surprisingly, few Australian universities allow much flexibility in workload to allow for individual differences in students' abilities and commitments. Particularly in professional faculties, failure in one subject can lead to repetition of the whole year's work in all subjects. However, some universities do operate on credit point systems and permit variations in workload within some specified minimum and maximum limits.

Quality Control of Student Grades

Since most student assessment in universities and CAEs is the responsibility of staff teaching the course, high grades do not necessarily reflect high quality performance. Rather, the mechanisms used by particular institutions to maintain standards, or to ensure comparability of standards across courses and institutions become important.

In this respect, practices vary considerably. In CAEs, curricula are controlled to some extent through state-level systems of accreditation. That is, programmes in particular colleges are accredited by panels appointed by a higher education board or commission of the state. Accreditation is usually for a five year period. Universities do not have such controls but mobility of students amongst institutions is common, particularly when postgraduate work is undertaken, and standards are considered to be fairly uniform. At the postgraduate level, wide use is made of external examiners for theses, although coursework Masters programmes are usually examined internally.

Some institutions do have comprehensive grading policies. For example, in undergraduate programmes at Macquarie University, staff in each course are given statistical guidelines for the award of

"A" and "B" grades, based on a distribution of the past performance of students enrolled in that course. Deviations from an expected distribution of grades need to be justified to the University Senate for courses with an enrolment of at least 40 students. These procedures ensure some consistency in standards across courses while allowing for variations in ability levels in different courses. Naturally, the statistical moderation does not apply to passing grades ("C") but the extent of failure in any course is scrutinized.

Assistance for Students

So far, the emphasis in this chapter has been on aspects of teaching. But efficient student learning is the other side of the coin in ensuring quality of processes.

Most institutions now provide some forms of assistance to students beyond their normal class hours. Thus library staff offer assistance and/or courses in efficient library use and assistance may be similarly given by computing staff in the use of computers. Some institutions offer remedial assistance to students, most often in the areas of writing skills and mathematical skills. This kind of remedial support has been necessary for some mature age entrants without the usual entry qualifications or with considerable lapse of time since their secondary schooling. However, with an emphasis on making places available for disadvantaged students (see Chapter Three) under the Participation and Equity Programme, these needs will increase. Provision of such assistance is difficult for institutions when additional places are funded at a marginal cost figure.

Chapter Nine

FACTORS AFFECTING THE QUALITY OF OUTPUTS FROM HIGHER EDUCATION

James Liesch and Graham Hermann

Introduction

Criteria for judgments upon the quality of higher education enjoy commonalities among nations. Nevertheless, as higher education responds to particular demands of its specific national society, it develops responses to the ends and means of that society, giving it a particular pattern. This analysis of Australian higher education attempts to strike a balance between the universal and the particular for the vital insights needed for a comparative study of the quality of higher education.

This report has used a systems analysis framework to separate inputs, processes and outputs and has, to this point, largely examined student inputs under the rubric of developing equality of access. But that is not the end of the matter of inputs: the ***quality*** of human, material and financial inputs remains a critical question affecting the quality of outputs. Similarly, the previous chapter discussed attempts to improve the quality of instruction through strategies of staff development and the improvement of teaching and learning. But the quality of instruction (a process variable) also has an important bearing on the quality of outputs.

The present chapter does not attempt to evaluate the outcomes of higher education *per se*. Rather it discusses three broad factors related to the quality of instruction and hence to the quality of outputs. These factors are selectivity of students, efficiency of throughput and flexibility of staffing.

Over recent years, there have been major changes in each of these areas under the impress of tighter budgets, increasing central control and concomitant calls for greater accountability. Finally, the chapter looks at one index of increasing quality of outputs, namely, growing postgraduate enrolments (see also Chapter Five).

Equity, Quality and Cost in Higher Education

Australian higher education is expensive by world standards, whether in costs per student or in proportion of the G.N.P. While costs are being scrutinised, there is a greater demand for higher education to reflect requirements for equality. This is evidenced by the shift of attention from equality as equal opportunity for matriculation to inclusiveness of enrolment of groups poorly represented in higher education populations, and to enlarged norms of equality of outcomes of higher education. To put it abruptly, equality in Australia is increasingly a dimension of quality of instruction, and to achieve it, costs in higher education may have to go up rather than down.

Student Selectivity

Student inputs into Australian education are strong. Senior secondary instruction remains tailored largely to preparation for higher education, in spite of attempts to broaden upper secondary curricula (for example, Blackburn (1985); Swan and Mckinnon (1984)). Matriculants represent about the top 60 per cent of Year 12 candidates. In turn, between 1980 and 1985, these candidates have increased from 35 per cent to 45 per cent of the age group. Though not all of the candidates above the 40 percentile mark choose to attend higher education, evidence from a Queensland study indicates that those with higher scores are more likely to enrol. To put it in slightly different terms, higher education selections principally come from the brightest, most persistent and appropriately prepared 25 per cent of the age cohort to Colleges of Advanced Education, and from the top 15 per cent to universities. This general pattern of highly qualified entrants held through the period, and in the last two years the universities became even more selective due to higher demand not being matched by sufficient additional places (see Chapter Two).

The demographic composition of entrants changed slightly. Free tuition, inaugurated in 1974, continued to shift the balance to greater participation by women and mature age students. However, social class backgrounds altered insignificantly, since new students continued to be drawn predominantly from the middle class. Mature age students, though selected on criteria different from the Year 12 examinations and assessments, have achieved at the same level as matriculants direct from senior secondary schools.

What is worrisome is that the current norm of equality of outcomes, long achieved for matriculants into higher education, may not hold up as it is combined with the equality norm of inclusiveness, which strives to raise the participation level of lower status groups. The challenge comes to accomplish new initiatives in the face of financial stringency. It will be costly to recruit, prepare and select positively more working class, women, migrant, rural and Aboriginal students. Those burdens will fall outside higher education budgets; however, initiatives to modify curricula and to enlarge student support services to make lower status groups successful will fall upon the strained resources of higher education. In this latter regard the prospects are not good. Government policy, constrained by financial demands from non-educational sectors, has been to increase higher education enrolments through "marginal increases" per capita. It can be argued that curricular and student support initiatives will require more per student expenditure with new groups of matriculants to achieve continuance of the equality of outcomes norm. Attention will now turn to how higher education is coping in instructional processes.

Instructional Efficiency as a Quality Norm

By contrast, what success higher institutions have with students, by way of throughput, is rather dismal. While New Zealand universities graduate only about 35 per cent to 40 per cent of enrolees eventually, Australia does rather better. On the other hand, highly selective institutions in the U.S., and British universities generally, graduate close to 90 per cent. The same holds true for Japanese universities, many of which would not be seen to be highly selective, given the large proportion of the age cohort entering them. Taken together, Australian universities graduate about 60 per cent of undergraduate entrants eventually (Williams, 1979: Vol.3, 79-132). The date of the information is from the late 1970s, but a recent report (West and Hore, 1986), on students withdrawing from full-time study estimates that, if account is taken of the return rate of students who transfer or withdraw, the systemic graduation role is around 80 per cent.

Over many years, there has been continuing study in Australia of factors which can be used as a basis for selection to higher education (e.g. Commonwealth Department of Education, 1986), and of

factors associated with the discontinuance of students from higher education (e.g. Hall and Harper, 1981).

It has been consistently found that the best *single* predictor of success in higher education is a centralized "leaving" examination at the end of secondary school. Such an examination contains, either explicitly or implicitly, such elements as knowledge of specific subject content (especially relevant if the same subject is being studied at higher education institution), general ability and problem solving skills in learning content and answering examination questions, study skills, and perseverance in studying. Improvement in selection might be obtained by modifications to the "leaving" examination score, such as weighting subjects specifically relevant to higher education subjects, and by combining the score with other predictors such as results at secondary school, school assessment of success at higher education, and scores on scholastic aptitude tests.

However, it is agreed that improving the prediction of success in higher education is not sufficient in seeking to improve student continuance; there must also be a major focus on improving the curricula, teaching methods, student transition process, and student support systems of higher education institutions.

It would appear that the decision of a student to discontinue higher education is a complex process associated with an interaction of many factors. These can be subdivided into four groups:

- Personal reasons for discontinuance. These include "financial problems" cited by full-time students, and "job pressures", "lack of time", and "personal/family" (e.g. health problems, pregnancy, transfer) more frequently cited by part-time students.
- University reasons for discontinuance. Perceptions cited by discontinuers include "ineffective teaching", "inappropriate curricula", and insufficient guidance of students before and after entry.
- Interaction between personal factors and institutions factors.
- Contextual factors, such as prevailing labour market conditions.

University progress studies, covering the 1970s, showed most of student difficulty occurred in first year. Sixty-one per cent passed all first year subjects, and about 80 per cent made "satisfactory progress". Hence, about one quarter of "satisfactory" first year students would have experienced failure in one or more subjects, depending upon course organisation, but continued eligible to re-enrol for a second year. What has never been studied directly is what could be called the "discouragement factor" although meta-analysis of more than one discontinuance study gives it reality. The discouragement factor often amounts to a forced change of mind and plans. Continuance at the university would certainly be at stake, since it may well mean an extra year added to one's course of studies, even though the penalty did not entail exclusion. A change of major (probably to one seen as less desirable) could also be a consequence, and in the Austalian system of faculty, as opposed to university-wide, matriculation, such a change is often difficult to accomplish. Pass rates and satisfactory progress rates are lower still in Colleges of Advanced Education (Williams, 1979:3, 136-140).

One consequence of the discouragement factor – discontinuance – seems to be taken as a matter of course by the university staff. Of the 40 per cent of students who never complete their degrees, only a quarter in turn are "excluded" for unsatisfactory progress, and even some of these latter students must certainly be included among the discouraged. After the Murray Report in 1957, attempts to accelerate progress to degrees and completions were made with some success. Nevertheless, the Williams Report (1979) also drew attention to the inefficiency in first year instruction and student support inadequacies. In Australia, still too little is provided by way of counselling at any time, compared to the North American pattern. When needed most, as the academic year ends, counselling services are virtually closed for six weeks to accommodate Christmas holidays and annual staff leave. Further, except for the possibility of a retake examination at only one third of the universities, little opportunity for remedial work by way of organised study or instruction exists during the three month holiday.

Through the year most universities provide supportive services by way of study skills, specialised writing and computational workshops, but coverage is minimal due to limited resources. There are also brief "bridging courses" offered by still other universities for

matriculants who have qualified for admission on an aggregated entry score, but who feel they may require a better background for courses in the faculty to which they are admitted.

While student support services have languished since the time of the Williams Report in 1979, staff development programmes have been established in sixteen of nineteen universities. Though growing in their influence, staff development efforts must yet prove their worth in achieving greater measurable effectiveness in instruction. One College of Advanced Education is showing the way by basing its staff development programme around student support services (Brock, 1986). It would be a bright spot, but for two things: only 25 per cent of the college staff has been involved in two years of operation, and the funding comes from outside the university budget. The resolve of the staff development unit is in terms that, if the college sees fit to admit students, it accepts the responsibility of making as many as possible successful in their work – a rare attitude.

The matters of high proportions of failures and discontinuance seem to reflect the momentum of traditional culling of inappropriate students. That may have been necessary before the mid 1960s, when nearly all who completed the academic high schools were permitted to matriculate. However, the secondary course was extended by one year in several States about two decades ago to improve preparation for higher education, and demanding examinations were set up to select the students with the surest prospects for university course completion. There was a contemporary reduction of first year failures, but the mentality of the culling process has not abated. The press remains for further selection of candidates throughout courses, expressed by the not uncommon justification that a high proportion of first-year failures is a symbol of the maintenance of "standards". It is not only in the general public mind that the contemporary call for excellence is equated with high failure rates. The positive attitudes engendered by the additional secondary year and a genuine effort in instructional strategies to make more students successful have not replaced older attitudes for some staff. In any event, formulas for university funding have not been modified to finance student support systems, nor to provide smaller classes to ensure a greater measure of first year success. Rather class sizes have increased. The prospect worsens with cutbacks in university per student finance forecast.

Staffing Rigidities Reduce Quality

Another set of patterns works against quality – those related to staffing rigidities. Given that the quality of higher education depends upon its flexibility to respond to changing needs and student demand, recent restrictions upon entrance to certain courses or faculties have been counterproductive. While restrictions are reasonable in certain fields such as medicine, dentistry and veterinary science, where instruction is very expensive and the economy already has high ratios of practitioners to population, these restrictions are difficult to justify in other courses, where student demand and qualifications for study are high. In these latter courses, the costs of higher education are relatively low, and high level manpower projections are often fundamentally inaccurate. But desirable growth, only partly restricted by funding stringencies, has also been restrained greatly by staffing rigidities.

A most important aspect of the matter lies in the high proportion of staff who are tenured. Compared, say, to the U.S. where a little over 60 per cent of higher education staff are tenured and there is provision for the closure of courses with compensation for displaced staff, in Australia 80 per cent of university staff are tenured (Senate Standing Committee on Education and the Arts, 1982). Moreover, the higher education system has not made any significant move to terminate or otherwise reallocate staff made redundant through shifting student demand. The resultant loss of staff flexibility has, in a period of extremely limited recruitment, prevented the rise of enrolments in faculties in accordance with the demand of qualified students. Moreover, given the unwillingness to alter seriously student/staff ratios in high demand faculties, the tactic has simply been to raise artificially the level of entrance scores, rejecting qualified students. Faculties affected by such tactics have been most notably lay, economics, commerce, communications and computer science. Unfortunately this restricted supply of places has gone virtually unnoticed and unchallenged within the institutions and among the public in the context of the general rise in matriculation scores.

There is one further extenuating consequence of staffing rigidity that has been amply noted by higher education staff associations. Currently fewer and fewer appointments are made on the

probationary/tenure track; more are made as temporary/fixed term appointments in attempts to maintain the limited flexibility. And further shifts in demand can be anticipated. When significant proportions of new staff connot foreseeably gain tenure track appointments, two unwelcome probabilities begin to be noted. The first is that well qualified persons divert from academic careers because of their uncertainties and the lack of the near-term psychic reward of tenure. The second probability is that reasonable energy, that may have gone into good teaching, is redirected to research and publication, in the hope of attaining tenure on a second lecturing appointment (Powell *et al.*, 1981:8-11). Thus staffing rigidities, even in the current mode to attempt to obviate them, cause derrogations of instructional quality, when a remedy such as the significant extension of the probationary period has not been attempted.

Quality Indication: Growing Postgraduate Enrolments

The proportion of graduates who proceed to higher degrees is a phenomenon of many causes. But it does indicate an increase in the quality of instruction in two ways: that the most able graduates of Australian universities regard local postgraduate education positively, and that universities are steadily gearing to more internationally recognised research training.

Until a generation ago the demand for research and higher professional training was met by students going overseas. Now the greatest preponderance of students remain in Australia to pursue postgraduate work as the need for academics rises and as the technologies of the professions, business and industry advance. In the period 1979-1984, the proportion of higher degree students rose from 12.5 per cent to 14 per cent; those in full-time postgraduate study grew from 7 per cent to 9 per cent. Put another way, while university enrolments generally rose 7 per cent, postgraduate enrolments grew 20 per cent, from 19,900 to 24,000. Commencing Ph D students rose by 30 per cent in the same period.

The "highest education" – postgraduate training – has the power to invigorate all of university instruction. That is why recent growth has such important possibilities for excellence in Australian universities. Research degrees also allow for the monitoring of the quality of Australian university education; they are typically assessed

externally, and are often assessed internationally in England, North America and Europe. Hence, there are internal and external forces continuing to raise university quality as the proportion of postgraduate education grows. Even the growth in numbers and in density of enrolments is having the effect of further improving the Ph D degree itself. Rather than continuing in the traditional solitary path of research and scholarship after a B.A. Hons., universities are strengthening the provision of postgraduate seminars, thereby broadening the base of their highest scholarly and research undertaking. It may well have the additional effect of relaxing some staffing rigidities by enlarging the undergraduate teaching capabilities of Australian academics.

To sum up this chapter, it is noted that the response to maintaining and improving quality is not entirely bleak. There have been gains in quality. But new initiatives are required in the near future. Since the improvement of the criteria for the selection of higher education students promises only very marginal increases of quality as efficiency, the new quality needs lie elsewhere. There need to be striking improvements of instructional success with students, especially in their first year, and imaginative reductions of staffing rigidities. More than "marginal cost" increase calculations in higher education funding, quality as inclusion of underrepresented groups and continued equality of outcomes, for which Australia has a deserved reputation, will more probably require greater per capita costs as enrolments are projected to increase.

Chapter Ten

THE ROLE OF INSTITUTIONS OF HIGHER EDUCATION IN RESEARCH, CONTINUING EDUCATION AND COMMUNITY SERVICE

Ruth Neumann

Introduction

Previous chapters of this report have concentrated on student enrolments and the teaching function of institutions of higher education. In contrast this chapter examines two other important functions of these institutions, namely, research and community service. As noted in Chapters One and Five, most research activities occur within universities. Although continuing education occurs within both sectors information on non-award courses is limited. For both these reasons this chapter focuses on research and continuing education in universities with only occasional references to the CAE sector.

Research in Australian Universities

Research in Australian higher education is primarily the domain of the universities. In fact, the extent of the commitment to scholarship and research and to training scholars and research workers is currently the main distinction between universities and Colleges of Advanced Education (CAEs). Although some staff members of CAEs with particular expertise in research are encouraged to pursue tactical problem-oriented research, the major research output is from the universities (CTEC, 1984). In 1981 the universities accounted for 98 per cent and the CAEs for 2 per cent of the research and development expenditure (ABS, 1983).

The definition of research favoured by the Commonwealth Tertiary Education Commission (CTEC) is that of Carter (1980) who identified ten different meanings of the term research: scholarship, theory construction, observing and chronicling, experiment, theory testing, design, development, criticising and elucidating, artistic creation, and consulting and advising.

Types of Research

These different meanings of research can be grouped into three main types:

(1) *Basic, pure or fundamental research* can be described as curiosity-motivated research, that is, gaining knowledge for the sake of knowledge. Such research does not have as its primary concern economic benefits (either long or short term) or immediate application.

Basic research is described as having a cultural objective because it contributes to a country's intellectual and international status. The Universities Council (CTEC, 1984) emphasised the contribution basic research makes to culture and human civilisation. This cultural objective is independent of economic and social benefits but is nevertheless a major contributor to a country's social and economic benefits (ASTEC, 1981; Jones, 1985). The Australian Research Grants Council (ARGC) has argued that basic research is an extremely important investment which leads to important future practical benefits and throughout its report, *The Case for the Australian Research Grants Scheme for 1985*, cited examples of discoveries of basic research, such as the structure of DNA, which represented a modest initial expenditure, but which had long-range practical and profitable spinoffs.

(2) *Strategic mission-oriented research* is a form of basic research which has as its prime concern the broad application of research findings to the solution of practical problems over a long time scale.

(3) *Tactical problem-oriented research or applied research* is primarily concerned with the solution of immediate problems and the application of the discoveries of basic research to a specific practical aim or objective.

The last two categories have economic and/or social objectives. They are important for the immediate generation of wealth and employment and meeting needs in areas of government responsibility such as environmental protection and public health (Jones, 1985).

In reality research is not always so neatly categorised. These three types of research overlap and interrelate and it is, thus, important to have a balance between the three areas in order to maintain a productive research system (The Australian Science and Technology Council (ASTEC), 1979). ASTEC (1981) cautioned against an overemphasis on research categories because this can and already has led to misconceptions such as, for example, that pure research is rarely of relevance to national objectives. ASTEC further pointed out that research in different disciplines is conducted in different ways and also contributes to different objectives. Furthermore, time and changes in national and international perceptions prevent a clear-cut distinction between the different types of research and encourage the notion of a research spectrum.

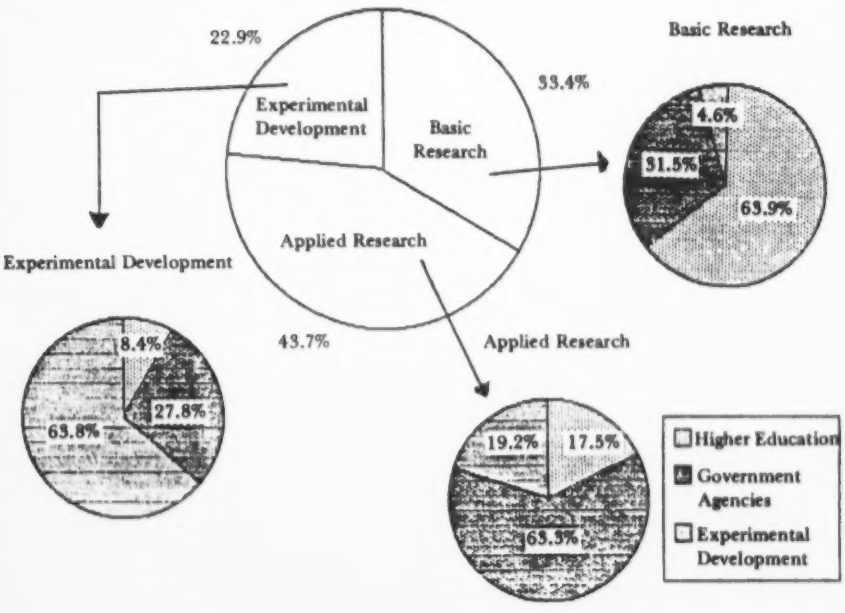
Although universities are involved in the full spectrum of research, they are the prime conductors of basic research in Australia. As shown in Figure 10.1, 64 per cent of basic research takes place in universities compared with only 32 per cent in government research laboratories and 5 per cent in the private sector.

The Organisation of University Research

The majority of research is conducted by full time academics within their *departments* and is part of their expected duties and contractual obligation to the university. One university, the Australian National University, has a particular emphasis on research and accounts for a substantial proportion of research expenditure. In 1985 there were 8,685 teaching-and-research staff at the levels of lecturer to professor and 1,150 research only staff at the levels of lecturer to professor appointed at Australian universities (CTEC, 1985b). Although a breakdown of these staff by field of study is not readily available, the breakdown of all teaching-and-research staff gives some indication of the number of people involved in departmental research. Table 10.1 gives information on the number of teaching-and-research staff by field of study but these figures include tutorial staff below the level of lecturer.

In addition to departmental research activities, there are within universities centres solely for research. Withers (1981) discussed the growth of these *centres, institutes and units* and described their function as "the pursuit of particular research interests outside the

Figure 10.1 Distribution of expenditure on research by sector, 1978-1979
(Source: Powles, 1984, p. 5)



organisational boundaries of the traditional departments or disciplines". Withers conducted a survey of all Australian universities and noted that the number of these centres has grown rapidly from four before 1960 to 95 by 1980, in the following research areas:

scientific or medical research:	30
regional area study:	13
humanities or private business policy:	10
public policy:	42

Criteria for identifying these centres was not made explicit and it may be possible that some multi-purpose centres were not included. However, examples of public policy centres were given: the Road Accident Research Unit (Adelaide University) and the Centre for Resource and Environmental Studies (ANU).

Table 10.1 Full-time equivalent teaching-and-research staff by departmental group 1985

Agriculture	284
Architecture	254
Arts/Languages	645
Arts/Other	2,682
Dentistry	184
Economics	1,162
Education	688
Engineering	918
Law	395
Mathematics	764
Medicine	1,364
Science	1,954
Social Work	114
Veterinary Science	213
Total	11,621

Based on: CTEC, *Selected University Statistics:* 1985.

A recent initiative has been the establishment of 10 *Special Research Centres* – previously known as Centres of Excellence – during 1982-1984. It is proposed that a further 10 Special Research Centres be established in the 1985-1987 triennium with the provision of an additional $13.4 million (CTEC, 1984). The concept of these centres was originally suggested by the Universities Commission in its *Sixth Report* (1975) and their current aim is to concentrate research activity and research effort in order to make best use of scarce resources in the funding of increasingly expensive facilities and equipment. Centres are selected by a committee on the basis of proposals presented to it by the universities. Of prime importance is the international status of the principal researcher and the centre's reflection of Australia's research strength in international terms (Commonwealth Research Centres of Excellence Committee, 1981).

The concept of centres has been criticised because of their concentration in the science/technology area and their establishment mainly in the older and larger universities. It has been argued that

this could lead to a differentiation between universities which may be detrimental to the quality of the national research output (Powles, 1984).

Another recent initiative is the development of ***Key Centres for Teaching and Research,*** seven of which have been established in the 1985-1987 triennium. These Key Centres have been established in both universities and CAEs with the aim of:

> improving teaching and research standards, especially for undergraduate work through a concentration of effort;
>
> assisting the transfer of staff and students between institutions;
>
> assisting the response by higher education to demands for expertise in relevant areas of national development;
>
> promoting co-operation between higher education and industry.
>
> The seven centres for the 1985-1987 triennium are:
>
> - Centre for Advanced Computing Sciences (New South Wales Institute of Technology);
> - Joint Centre for Statistical Sciences (University of Melbourne/La Trobe University/Monash University/Royal Melbourne Institute of Technology);
> - Centre for Computer Integrated Manufacturing (Swinbourne Institute of Technology);
> - Centre for Land Information Studies (Queensland Institute of Technology/University of Queensland);
> - Centre for Resource Exploration (Western Australian Institute of Technology);
> - Centre for Advanced Study in Petroleum Geology and Geophysics (University of Adelaide);
> - Centre in Aboriginal Studies and Education (South Australian College of Advanced Education).
>
> (CTEC, 1985)

Research Funding

(a) Measurement of Research Expenditure

One measure of research expenditure is the concept of Total Identifiable Research Expenditure (TIRE) which is a measure of research effort identified as specifically devoted to research only. The Universities Council prefers this measure to another measure, namely Project SCORE (Survey and Comparisons of Research Expenditure), which includes a suggested research component of the salaries of the teaching-and-research staff, a calculation which contains considerable uncertainties.

Table 10.2 indicates that the proportion of CTEC funds for research has fallen but that funds from other Commonwealth sources and private sources have increased. As a result the expenditure per research worker has increased (see Table 10.3).

Unfortunately measures of research expenditure do not include a breakdown by type of research, so it is not possible to study any change in the balance between pure and applied research. There is, however, the danger that funds from private sources would tend to favour applied research, and often research problems stemming from vested interests, at the expense of basic and/or independent and critical research. This could pose a threat to the balance of the research spectrum.

Table 10.2 Total identifiable research expenditure (TIRE) at australian universities, by source, 1977 to 1982 (CTEC, 1984)

Year	*CTEC*	*Other Commonwealth*	*Other*	*Total*	*CTEC proportion of total*
	$m	$m	$m	$m	per cent
1977	94.3	38.4	22.1	155.1	60.8
1978	99.0	42.0	24.9	166.3	59.5
1979	97.4	48.8	27.6	173.7	56.1
1980	97.7	56.8	32.6	187.1	52.2
1981	94.3	58.4	35.6	188.2	50.1
1982	100.1	62.7	36.4	199.1	50.3

Table 10.3 Total identifiable research expenditure (TIRE) per research workers at universities, 1977 to 1982
(Australian National University not included)

(CTEC, 1984)

Year	*TIRE*	*Research workers*			*Expenditure per research worker*
		Staff	*Students*	*Total*	
	$m				$
1977	89.6	8,176	7,722	15,898	5,600
1978	98.5	8,441	7,712	16,153	6,100
1979	105.7	8,574	7,817	16,391	6,400
1980	115.2	8,568	7,965	16,533	7,000
1981	116.1	8,680	8,119	16,799	6,900
1982	124.7	8,698	8,458	17,156	7,300

(b) Sources of Research Funds

There are three major sources of funds:

- CTEC;
- Commonwealth government bodies; and
- non-government bodies.

CTEC is the major source of university research funds, mainly in the form of recurrent funds. In addition there are Special Research Grants which are earmarked grants instituted in 1963 and designed to:

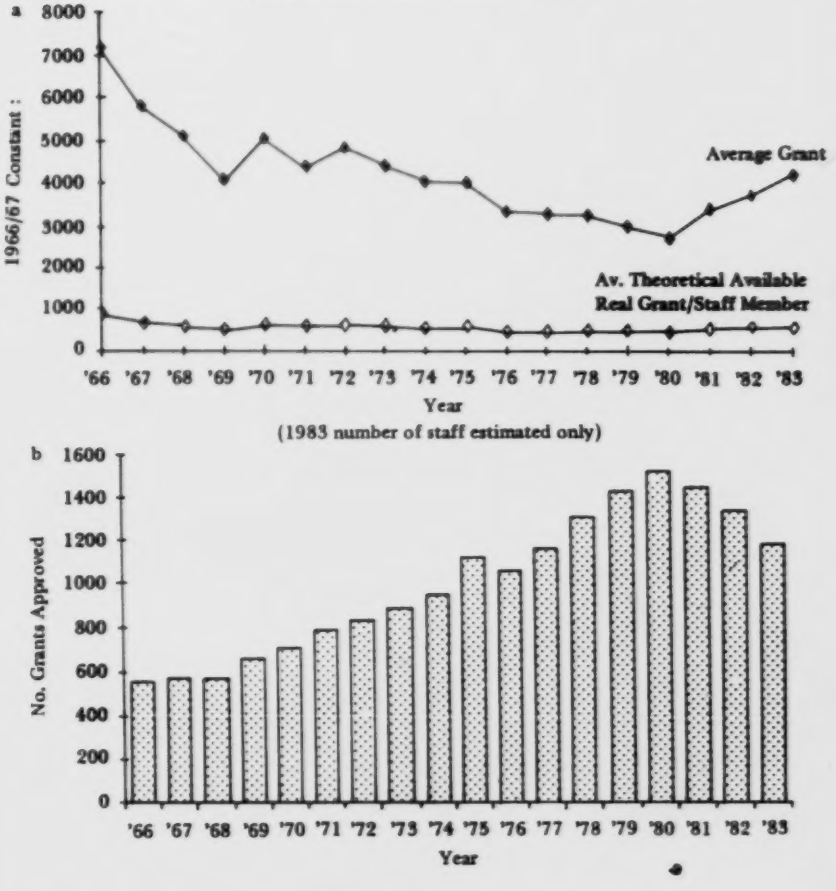
1. assist in the development of young research workers who show promise but have not yet gained sufficient research experience to be awarded grant money from other granting agencies;
2. enable "topping up" of outside research grants;
3. support pure research. (Australian Universities Commission, 1972)

Equipment grants are particularly important for the scientific and technological fields although it is becoming increasingly difficult to cover the high costs of the sophisticated equipment necessary for research needs (see also Chapter 12).

Other Commonwealth funds come from bodies such as the Australian Research Grants Scheme (ARGS), the National Health and Medical Research Council (NH&MRC), the National Energy Research Development and Demonstration Council (NERDDC) and the Australian Marine Science and Technology Advisory Committee (AMSTAC).

The ARGS, established in 1965, has been the major provider of funds for specific basic research projects in all fields in universities and non-government institutions. Since its inception there has not

Figure 10.2 Trends in ARGS funding, 1966-1983
(extracted from Powles, 1984)



been any growth in real terms. In fact, the average theoretical available real grant per staff member has decreased substantially as shown in Figure 10.2a, with some recovery since 1980. There has also been a recent decline in the number of projects approved (Figure 10.2b) but some increase in the average size of grants (see Figure 10.2a) meaning that support has favoured larger projects.

In the present climate of tight funding and cutbacks there is a fear that there will be an increase in applications for "safe" projects and that only projects seen as immediately applicable to national goals and hence biased towards the technological areas will be submitted, thereby creating an imbalance in the broad spectrum of university research (Powles, 1984). The decrease in the proportion of research expenditure by CTEC and the lack of growth in real terms of ARGS funds, combined with an increase in expenditure by bodies more interested in strategic and applied research, represents a further threat to the research balance in Australian universities.

The ARGS has expressed a deep concern about the maintenance of basic research in Australian universities, believing that a decrease in basic research leads a nation to accepting the views of other countries and thereby both becoming impoverished and losing the ability to evaluate and adopt knowledge.

(c) Australian Research Expenditure Compared with other OECD Countries

In terms of research spending, in the early 1980s Australia ranked 12th in the OECD countries. Particularly striking is the low amount – in fact the lowest of all OECD countries – of research and development in the business sector. Jones (1985) commented on the private sector's poor participation and investment in research in Australia and the need to increase the private sector's esteem of research, more particularly university research.

Quality of Research

Although the Australian universities are national institutions they are also part of the international network of scholarship and research. This international perspective contributes to the quality of research in several ways:

1. the commitment of researchers to publish their findings in refereed and international journals;
2. the granting of research funds based on peer review – by both Australian and international peers;
3. the pivotal role research activity plays in promotion.

As reported in a recent issue of *Nature* (1985), international evaluations of Australian research, especially in the sciences, are particularly complimentary, even though it is recognised that research is being conducted on an ever decreasing budget.

At a time of non-expansion and cutbacks in universities there are increasing demands for efficiency, effectiveness and accountability from the university sector, which in turn lead to government requests for evaluation of research activity. The movement towards quantifying research productivity as a form of evaluating quality and efficiency has not yet reached the stage in Australia that it has in the USA and the UK (West, Hore and Boon, 1980). West et al. (1980) discussed eight possible quantitative measures of research activity and their construct validity. They concluded that such methods are highly questionable, but that the same objections can be raised about subjective methods of evaluating research quality.

Notwithstanding justifiable demands for quality in research, it must be remembered that constant evaluations of quality and productivity in research require time and effort which detract from the researchers' capacity to engage in research, in addition to contributing to the increasing cost of research. Macdonald and Mandeville (1982) surveyed those responsible for the 189 ARGS applications from the University of Queensland in 1980 and found that the average number of days spent on an ARGS application was 5.3 days, calculated to be worth $297 per working day per staff member – a total cost of $297,500 to the University of Queensland. In a recent submission on efficiency and effectiveness in higher education to CTEC the Australian Vice-Chancellors' Committee (AVCC) (1986) expressed its concern about the frequency with which universities were being asked to provide often lengthy and detailed information to government bodies. The AVCC claimed that the cumulative effects in staff time, resources and costs to the university in collecting and presenting such information were significant.

Continuing Education in Australian Universities – A Community Service

Along with research and scholarship, public service is considered to be a major function of universities. A major way in which universities perform a public service is to offer programmes in continuing education. Known also as extension studies, extramural studies and adult education, continuing education is a broad and diverse area which is important but somewhat peripheral as a university activity. Despite its importance as a public service, however, there are few statistical data on continuing education (CTEC, 1981; CTEC, 1984). The *Sixth Report* contains the last detailed figures on continuing education in Australian universities for 1973 and 1974 (Universities Commission, 1975). *A Review of Continuing Education Provision by the Australian Universities* (Smith, undated) provides some current data (December, 1984), but no statistical information such as the number, type and duration of continuing education courses or the number, sex, age and background of students.

Continuing education has a long tradition in Australian universities, with the University of Sydney giving public lectures in Sydney and larger country towns in 1880.

Continuing education today is firmly entrenched in Australian universities, although its nature continues to change. Several Australian universities have recently reviewed their provision of continuing education and still others are contemplating such a review (Smith, undated).

The section discusses:

(1) CTEC policy guidelines on university continuing education

  (a) definition of continuing education;
  (b) funding of continuing education; and

(2) the current provision of continuing education in universities

  (a) types of courses;
  (b) administration of continuing education provision;
  (c) financial arrangements.

CTEC Policy Guidelines on University Continuing Education

(a) Definition of Continuing Education

The CTEC guidelines on continuing education for the 1982-1984 triennium and the 1985-1987 triennium provide the basis for an understanding of the Commission's view of what university continuing education should be. However, CTEC's definition is narrow and at times ambiguous. The present triennial report has noted the need to define clearly and coherently this area of education and an investigation is currently being undertaken.

Several writers (Ellwood, 1976; Legge, 1982; Jarvis, 1983) have commented on the confusion created by having a number of different but similar-sounding terms for continuing education. Jarvis (1983) pointed out that confusion can arise because the same terms are employed in different ways and sometimes different terms are used to convey the same meaning. During the 1970s terms such as "continuing", "recurrent", "lifelong", "further" and the older "adult" education were much discussed. Major influences were Unesco's report on lifelong and continuing education and the Organisation for Economic Co-operation and Development (OECD) report on recurrent education (Jarvis, 1983). While defining continuing education as consisting primarily of fee-charging non-award courses, CTEC (1981) has recognised the continuing education aspect of many postgraduate award courses. Non-award courses are continuing professional and vocational courses and non-professional general interest courses. CTEC's understanding of general interest, non-award courses is that of traditional British adult education courses held in universities, namely, liberal education, which has the stereotype image of being a leisure-time pursuit of the middle classes.

In its 1985-1987 triennial report in the section on "Continuing and Adult Education", CTEC (1984) saw such courses as important ways of "improving educational opportunities" and "encouraging entry into more formal tertiary education study". There appears to be a conflict here between CTEC's claim that continuing education improves access for the disadvantaged and its simultaneous acceptance of traditional continuing education.

(b) Funding of Continuing Education

The funding formula for non-award continuing education was initially recommended for universities by the Universities Commission (1975) and has been maintained virtually without change by CTEC. Higher education institutions are allowed to spend up to one per cent of recurrent funds to meet administrative costs associated with providing continuing education courses. The limit for CAEs is $75,000 (1984). Despite this low expenditure, CTEC has claimed to view continuing education as an important and worthwhile function of higher education institutions (1981, 1984).

In keeping with the tradition of adult education courses, CTEC (1981) has argued that non-award courses should continue to be fee-paying. It has maintained that continuing professional development is an individual's responsibility and that "individuals might be expected to pay for continuing education which is taken for general interest or enjoyment".

Nevertheless, award courses of a continuing education nature, such as postgraduate diplomas and master's degrees by course work, are fully funded – although CTEC has claimed that continuing professional development is an individual's responsibility. There also appears to be a basic contradiction between, on the one hand, CTEC's supposed commitment to continuing education as a vehicle for increasing access and, on the other hand, the adoption of the "middle class adult education" philosophy, and the practice of charging fees.

CTEC has justified its stand on not funding non-award courses on the ground that if continuing education were funded in the normal way, institutions may be encouraged to develop courses which would attract large enrolments regardless of academic merit or appropriateness (1981). Such an attitude is hardly complimentary to universities and CAEs, and seems to conflict with CTEC's belief that fees provide an incentive for departments to provide courses (1981). The Commission believed that profit from charging fees could be used by departments for academic purposes as they saw fit. Hence, the opportunity to obtain extra money would induce departments to increase the provision of continuing education courses.

CTEC accepted the view argued by institutions that a weighted student load for continuing education would more readily enable departments to offer continuing education courses, but argued on the side of administrative convenience when it said (CTEC, 1981:210):

> **. . . although it is quite possible in principle to qualify student load in continuing education, the extent of the statistical collection required and the administrative load involved in such a quantification would be substantial.**

CTEC conceded that for this to happen it "would require a major policy change on the part of the government".

CTEC is now in a difficult position if it is to develop a legitimate boundary between "regular" and continuing education courses in that the distinction is essentially contextual and administrative rather than educational. The charging of fees for overseas students and extra fee-paying Australian students presents the same dilemma for the government.

To summarise CTEC's guidelines on policy in recent years:

- continuing education courses are non-award courses
  - of a professional/vocational nature
  - of general interest
- continuing education is an important way of improving access
- continuing education is to be fee-charging
- universities have a responsibility for professional/vocational continuing education
- continuing education is an important function of universities and should not remain on the margin
- continuing education teaching is part of the normal of academic staff
- departments should keep profits from continuing education courses
- universities may spend up to one per cent of recurrent funds to meet continuing education administrative costs

– continuing education needs investigation, particularly with regard to access.

Current Provision of Continuing Education in Universities

(a) Types of Courses

(i) Formal courses

There are four major types of formal courses offered by universities:

(1) professional and vocational;

(2) general interest;

(3) bridging courses containing or leading to some form of accreditation to gain university entry;

(4) individual units in award courses.

Of these, the first two are the most common. With few exceptions the universities offer professional/vocational courses to enable people to update their knowledge and skills. The majority fo these courses are offered through the professional faculties of medicine, dentistry, law, engineering, etc., quite often in association with a related professional organisation. The general interest courses are offered either by departments or, where universities have a centre for continuing education, they may be offered by the centre. A large number of these courses are language courses but there are also others which fit into the category of liberal education. A minority deal with current issues or inter-disciplinary topics. However, as noted earlier, detailed statistical information on the number and type of courses has not been collected. Some indication of enrolments in different types of programmes in universities and CAEs is provided by a recent draft report (Johnson and Hinton, 1985) and these data are shown in Table 10.4.

CTEC has noted that continuing education is a means of gaining access to higher education, but as can be seen from Table 10.4, only a very small proportion of courses in higher education enrol students in bridging or preparatory courses.

Table 10.4 Enrolments in adult and continuing education programmes in universities and colleges of advanced education, 1984

(Johnson and Hinton, 1985)

State	*Types of Programme*			
	Preparatory	*Professional Development*	*General Education*	*All Programmes*
NSW	2,220	35,771	20,302	58,293
VIC	743	31,035	6,078	37,856
QLD	894	26,981	4,377	32,252
WA	119	7,979	13,737	21,835
SA	225	2,420	1,298	3,943
TAS	117	4,700	556	5,373
ACT	184	3,460	2,415	6,059
Australia	4,502	112,346	48,763	165,611

Note: These are based on preliminary statistics and are subject to change in the final report.

Finally, some universities provide a limited number of places for continuing education students to undertake selected award courses. Students in such courses may opt to be assessed on their own work, but this varies from university to university. Continuing education courses are predominantly conducted on campus and there is only limited current provision of off-campus or distance courses.

(ii) Informal "courses"

The informal provision of continuing education is undertaken in a number of ways: radio broadcasts (general programming and specific course programmes), public lectures, exhibitions and performances, conferences and publications.

Over half of the Australian universities present educational radio broadcasts, and every Australian university presents throughout the year public lectures, both by university staff and wellknown visiting speakers, public exhibitions and musical and theatrical performances.

(b) Administration of Continuing Education Courses

Considerable variation exists among universities regarding their administration of continuing education courses. Those universities with a continuing education policy usually have a university or senate committee on continuing education whose function is to approve and to some extent co-ordinate the university's continuing education activity. In addition, these universities also generally have a department of continuing education with at least one academic position and clerical support for continuing education. These departments both organise their own continuing education activities and provide administrative assistance to continuing education in academic departments, if this is desired. Department-based continuing education is the most common form of provision.

Although CTEC contends that university staff should be involved in continuing education as part of normal duties, only *one* university specifically includes continuing education in its staff contract. Moreover, the fact that at many universities academic staff receive additional payment for continuing education teaching suggests that staff involvement in continuing education is an *additional* and not a normal duty. The majority of universities also hire outside staff to teach in continuing education courses.

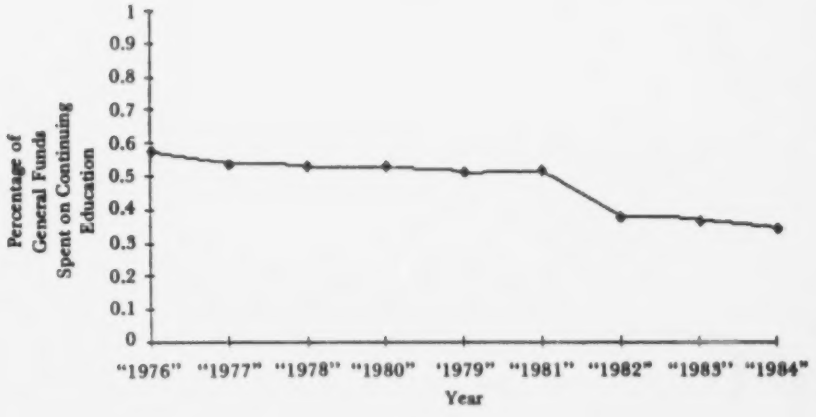
(c) Financial Arrangements

In keeping with CTEC policy, the universities have adopted the "user pays" principle for continuing education courses. The charge for courses varies depending primarily on whether it is a general interest or a professional/vocational course, the latter being much more expensive. In general, universities believe the general interest courses should cover costs rather than be designed to make large profits. Any profits from department based continuing education appears to remain within the department offering the course, but there does not appear to be any evidence of university departments espousing continuing education as a major fund raising activity, as suggested by CTEC. Also, only abut one third of the universities use profits from some continuing education courses to offer "loss" courses. An explanation of this could be that most universities, despite the existence of continuing education policy, do not seem to organise continuing education from a single, central "unit";

rather they tend to operate in a somewhat *ad hoc* manner, depending on staff interests and enthusiasm.

Not all university continuing education activity is fee-charging. Many exhibitions, seminars and public lectures are free to the general public. Statistics on expenditure from general funds on public services for all the Australian universities show that, although universities may spend up to one per cent from general funds on continuing education, far less than that amount is spent. In fact, there has been a decline from 0.5 per cent in 1976 to 0.3 per cent in 1984 (see Figure 10.3).

Figure 10.3 Percentage of general funds spent on continuing education



Chapter Eleven

THE UNIT COST OF HIGHER EDUCATION IN AUSTRALIA

Soepomo and Neil Baumgart

Introduction

A knowledge of the cost of higher education and unit costs in particular is essential if educational planners are to respond to changing conditions. Cost comparisons across institutions will also help to identify possible inefficiencies and to plan for the optimum use of scarce resources.

In defining cost as a function of production, researchers have made use of cost-benefit analysis and computed average costs, marginal costs and opportunity costs. However, such computations take no account of efficiency and Bowen (1980), in his revenue theory of cost, has claimed that "an institution's educational cost per student unit is determined by the revenue available for educational purposes". By implication, one way to improve efficiency is to restrict revenue, provided the funds available are sufficient to meet basic needs.

The aims of approaching cost as a function of production are to identify various cost components, to study the relationships between costs and other factors, and to draw implications for future educational policies. However, for an institution with a relatively fixed enrolment, the flow of educational revenue is crucial in the determination of unit costs, regardless of how this revenue is expended. When no revenue is derived from fees, as is the case in Australia, variations in enrolments with few changes in revenue can lead directly to changes in unit costs.

This chapter begins with an examination of the funding of higher education in Australia. Recent changes in cost components and student load are examined so that trends in unit costs can be examined over time. Differences in unit costs across institutions are also explored.

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Commonwealth Grants

Tertiary educational institutions in Australia are almost totally financed by the Commonwealth Government. Higher education, as part of the tertiary system, operates on the basis of a budget allocation, recommended to government through triennial reports of the Commonwealth Tertiary Education Commission (CTEC). The total dollars of budgeted figures are intended to cover the basic recurrent costs for teaching, research, public service and administration. Additional funds are sought for particular research projects (see Chapter Ten) and some institutions, notably the well-established ones, are able to attract some revenue from gifts, bequests and other private sources.

The Commonwealth Government uses a criterion called "student load" expressed as equivalent full-time students as one key determinant of the amount of the grant allocated to each university or CAE. The Commonwealth Grants for Higher Education also provide for equipment and capital funds although recurrent funds are by far the largest amount among the three categories. The historical data on these grants (adjusted to December 1983 cost levels) for all universities and CAEs for the years 1979 to 1984 are shown in Table 11.1. The grants declined from the late 1970s to 1982 before showing some modest increases corresponding to a period of increasing enrolments (see Chapter Two).

Table 11.1 Commonwealth grants for higher education, 1979 to 1984

	Year					
Sector	*1979* $m	*1980* $m	*1981* $m	*1982* $m	*1983* $m	*1984* $m
Recurrent	1,791	1,796	1,796	1,784	1,787	1,802
Equipment	80	76	76	81	81	81
Capital	101	77	49	42	50	54
Total	1,972	1,948	1,921	1,907	1,918	1,938

Source: CTEC (1984).

Provision of Grants

For the university sector, recurrent Commonwealth Grants are divided into five major categories, namely, general funds, special research grants, special research centre grants, teaching hospital grants and student residence funds. For CAEs, allocations for recurrent grants comprise general funds and student residences and no provision is made for research. In addition to these sectoral allocations by the Commonwealth, grants are also made for inter-sectoral provisions including the programme for Aborigines, superannuation, promotion of equity, key centres and emergency student assistance.

Cost Components within General Funds

For the purposes of reporting expenditures from general funds, the activities of universities are grouped into five categories, namely, academic activities, academic services, student services, general university services, and public and other services.

The academic activities comprise basic teaching and research while the academic services include items such as library, computing, audiovisual services, animal houses, scientific services, language laboratories and teaching and learning centres. The student services include those for health, counselling, accommodation, and employment. Under general university services, administration, building and grounds, cleaning and caretaking, and other administrative services are included. The final category includes extension services, adult education and professional development courses.

Expenditures in CAEs are grouped differently from those in universities. They are classified as teaching activities, library services, student services, academic services, administration, business undertakings and other services. The different kinds of expenditure within CAEs warrant separate study but it would be misleading to add them to expenditures in universities in order to describe cost levels in higher education. For the present Chapter, unit costs and changes in these over time are computed and discussed *only* for universities.

Table 11.2 shows the proportions of expenditure given to the five categories of activities for universities over the period 1981 to 1985. About two thirds of the expenditure is on academic activities

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with the next highest category being about one fifth on general services which includes the major items of administration and maintenance of buildings and grounds. Over the five year period shown, the proportions spent on the various categories have been relatively stable although some trends are evident.

Table 11.2 Expenditures across different activities in universities, 1981-1985

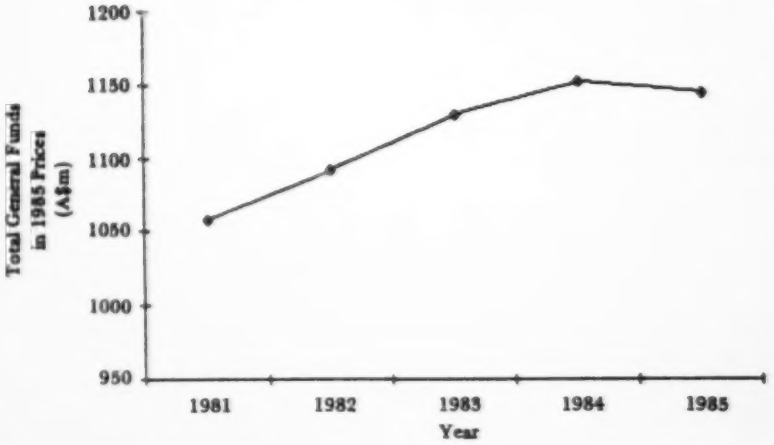
	Year				
Activity	*1981* %	*1982* %	*1983* %	*1984* %	*1985* %
Academic activities	67.13	68.01	67.47	66.92	66.88
Academic services	9.59	9.35	9.89	9.93	10.00
Student services	1.88	1.81	1.77	1.82	1.85
General university services	20.65	20.14	20.35	20.81	20.81
Public or other services	0.75	0.69	0.52	0.52	0.46

Within recurrent expenditures, the component for salaries is almost 80 per cent. Of this, about 78 per cent goes on the salaries of teaching and research staff and a further 16 per cent approximately on salaries of administrative and maintenance staff. This high expenditure on salaries greatly reduces the flexibility for cost management, particularly when the vast proportion of academic staff have security of tenure.

Changes in Total General Funds

The allocation of general funds to universities has increased over the period 1981 to 1985. In 1981, the allocation was A$776,186 million to finance a student load (full-time equivalents) of 27,655 in higher degrees and 114,967 in bachelor and non-degree courses. By 1985, the allocation was A$1,144,128 million to provide for a student load of 31,742 in higher degree courses and 120,926 in bachelor and non-degree courses. However, to appraise the allocation in real terms, it is necessary to make adjustments for the rate of inflation. Figure 11.1 shows the trend in the allocation for general funds adjusted to 1985 price levels. This indicates a steady increase up to 1984 but a decline for 1985.

Figure 11.1 Changes in total general funds for universities, 1981-1985, in 1985 prices.



Changes in Enrolments

Before 1986, higher degree students (but not postgraduate diploma students) counted double weight in the computation of student load in effective full-time students (EFTS) units. The student load in universities increased steadily over the period 1981 to 1985 as shown in Table 11.3. The average yearly increase was 1.76 per cent. Details of actual student enrolments for different categories, including full-time and part-time, were reported in Chapter Two.

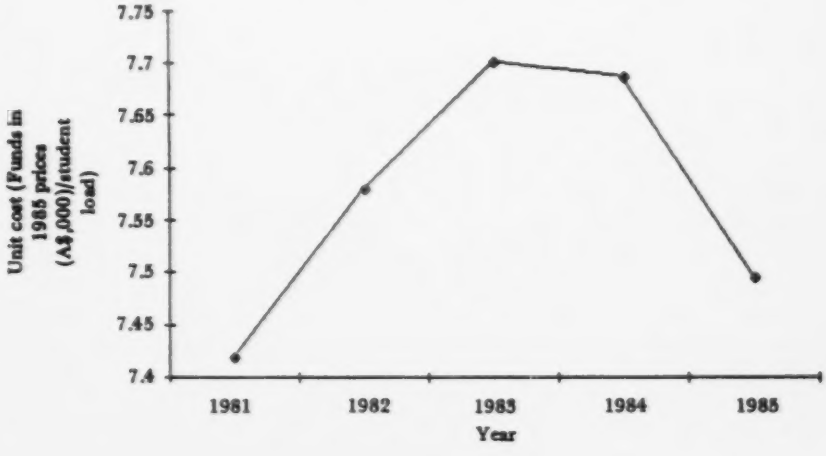
Table 11.3. Student load statistics for the period 1981-1985

Year	*EFTS Units*
1981	142,622
1982	144,049
1983	146,670
1984	149,889
1985	152,668

Changes in Unit Costs

Mathematically, cost per student can be obtained simply by dividing the amount of money an institution can raise for educational purposes by the number of students it serves. For the present purpose, unit costs for the university sector were computed by dividing the allocation for general funds, adjusted to 1985 prices, by the student load. (It should be noted that a portion of capital costs is sometimes allotted in calculations of this kind but that the figures here have not included such costs.) Changes in unit costs calculated on this basis are shown in Figure 11.2. Unit costs for universities can be seen to rise between 1981 and 1983 and then to fall.

Figure 11.2 Changes in unit costs for universities, 1981-1985.

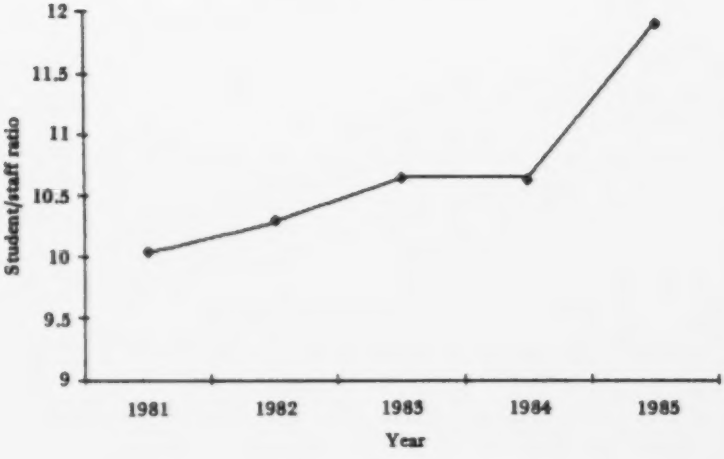


Changes in Staff/Student Ratios

If was noted above that the vast proportion of recurrent costs are salary costs. It follows that, if significant savings are to be effected, salary costs may need to fall even against increasing enrolments. This is not easily achieved with a system in fairly steady state because, under the system of tenure for academic staff, little mobility occurs and staff tend to move upward through promotions or at least through increments within any salary scale. Thus there is a tendency for average experience levels of staff to increase and for

average staff cost to increase accordingly. While it is true that staff salaries have not kept pace with the rate of inflation in recent years, one might also expect to see some deterioration in student/staff ratios as a strategy for reducing costs. Figure 11.3 shows changes in student/staff ratios over the period 1981 to 1985. As shown in the figure, the ratio increased steadily from 1981 to 1984 with a more dramatic increase in 1985.

Figure 11.3 Changes in student/staff ratios in universities, 1981-1985

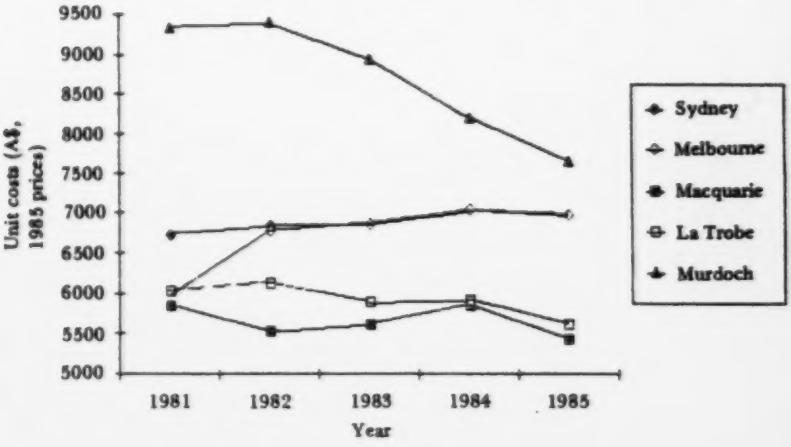


Unit Costs in Different Institutions

Unit costs vary considerably across universities. Leaving aside the Australian National University in Canberra which is funded on a different basis because of its Research Schools, unit costs for the remaining 18 universities varied in 1985 from A$5,418 at Macquarie University to A$12,713 at James Cook University of North Queensland. The latter, a small provincial university with a number of "expensive" faculties, is an outlier since the next highest figure is A$8,167 at the University of Tasmania. Some of the differences among universities have to be explained in terms of such factors as size, location, faculty mix, the profile of staff ages, and so on. This suggested that it would be interesting to examine changes in unit

costs over time for a number of universities since, for any one institution, many of the factors affecting unit costs would remain fixed or vary only slightly over time. Figure 11.4 shows these changes for five universities.

Figure 11.4 Changes in unit costs for selected universities, 1981-1985, in 1985 A$ prices.



The Universities of Sydney and Melbourne are similar in age, status and faculty mix, being the older universities in large metropolitan areas. As shown in Figure 11.4, except for 1981, their unit costs are very similar indeed and have remained fairly stable when converted to constant prices. Macquarie University in Sydney and La Trobe University in Melbourne are also similar to each other. They are universities in suburban areas of large metropolitan cities, about the same age (about 20 years), and offering similar programmes. Not surprisingly then, their unit costs are also similar as shown in the figure except for some divergence in 1982. Murdoch is a newer university in suburban Perth and, in this case, the figure shows a fairly dramatic reduction in unit costs in recent years. However, in 1982, Murdoch had the third highest unit costs of all 19 universities, after the Australian National University and James Cook University. Hence the changes shown for Murdoch do represent a regression to the mean.

Figure 11.4 also demonstrates the reduction in unit costs from 1984 to 1985, an observation made earlier for all universities combined from Figure 11.2. Nevertheless, the variations in the changes in unit costs across universities are interesting. Where unit costs have dropped appreciably, can this be attributed to particular policies? Do the reduced costs represent added efficiencies or do they threaten quality? Although beyond the scope of the present study, these questions warrant further investigation.

Costs and Outcomes

Computation of unit costs in this chapter has simply used student load as the divisor. When questions of efficiency and productivity are raised, it is interesting to consider costs related to the number of graduates. That is, we might compute an index similar to unit costs but use the number of graduates as the divisor. Of course, some allowance has to be made for students remaining in the system and not yet graduated. However, calculations on this basis, which take account of wastage through failure or dropout, suggest there are large differences across institutions and across programmes within an institution and raise questions of why this is the case. We intend to pursue some of these questions beyond the present study.

Chapter Twelve

COST MANAGEMENT IN HIGHER EDUCATION

Mark Wells

Introduction

Prior to 1974, the responsibility for funding the universities and Colleges of Advanced Education (CAEs) was shared by the Commonwealth and State Governments. Tuition fees were charged and the Commonwealth Government also funded a scholarship scheme.

In 1974, the Commonwealth Government decided to take full responsibility for funding; tuition fees were abolished, the Tertiary Education Assistance Scheme (TEAS) was introduced and retrospective adjustments to grants were used to maintain their value in real terms.

Soon after these changes were implemented, the value and role of tertiary education dramatically changed. The beginning of the recession in the second half of the 1970's decreased the demand for a qualified workforce and graduates could no longer enjoy the certainty of high grade employment. This was accompanied by considerable reductions in tertiary education funding. The value of tertiary education became questionable and the real value of TEAS declined as the inflation rate soared. Not surprisingly, the growth in enrolments slowed considerably (see Chapter Two).

The Role of the Commonwealth Tertiary Education Commission (CTEC)

In mid-1977, CTEC was established. The single statutory commission with three Councils replaced the three independent commissions which previously represented the sectors of Tertiary Education.

CTEC advises the Commonwealth Minister for Education on the levels, conditions and allocations of financial assistance in respect

to universities, CAEs and TAFE. The object of the commission is to promote balance and co-ordination within the tertiary education sector. Recommendations are made on a triennial basis.

Since CTEC is the sole official source of national advice and expertise on tertiary education matters, it should in theory be able to resist external pressures and confine itself solely to educational needs and arguments. Unfortunately, "it has felt heavily constrained to accommodate its recommendations to what it believes will be acceptable to the government" (Byers and Wallis, 1979). On the other hand, if CTEC is to maintain its credibility with higher education institutions, it must be seen to adopt a stance independent of the government. "The dilemma facing CTEC, then, is to find and maintain an appropriate balance in meeting the sometimes conflicting objectives and needs of the Commonwealth Government and the higher education institutions" (Fox and Snell, 1983).

Ironically, universities and CAEs, instead of achieving independence through assured financial support under the Commonwealth system, have found themselves tied to a reluctant single source of funding which has drastically compromised the autonomy they originally had.

Cost Management

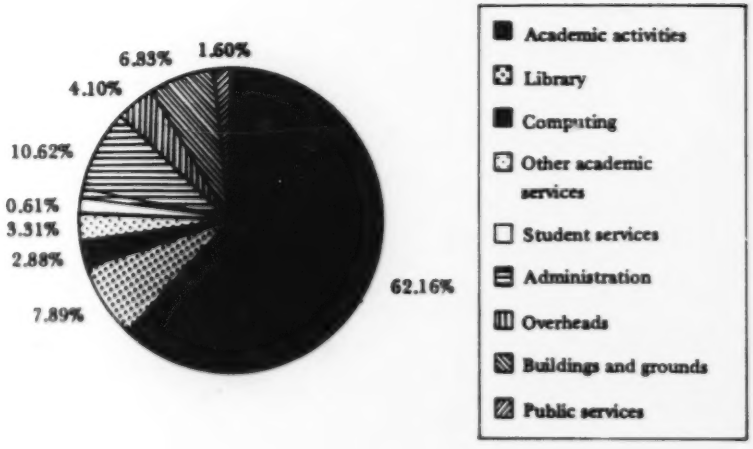
Unlike the System of Integrated Government Management Accounting (SIGMA) used in New Zealand, the funding system in Australia offers very little scope for Programme Budgeting or evaluation. Given an hierarchical structure of funding, the dual elements of planning and control, which should be inseparable, have become separated. There is thus little scope for effective cost management. For example, at a most basic level, it is very difficult to distinguish accurately between that part of expenditure attributable to research and that to teaching. Even though teaching and research are seen as interlocking or complementary activities, if any form of budget planning and control is desirable, it becomes necessary to distinguish the research and teaching functions.

In defence of CTEC, Fox and Snell (1983) found that while the Commonwealth funding authorities provided funds to institutions on the basis of some notion of cost relativities for particular discipline groups, they have not necessarily expected institutions to allocate

resources internally in a way which reflected the Commonwealth's approach or which took account of resource allocation practices in other institutions. CTEC has not made public any "funding formulae" and has maintained a traditional resistance to "earmarking" recurrent funds for particular purposes.

This approach to funding relates to the well held belief in institutional autonomy and responsibility. Hence, institutions have been relatively free to determine the internal allocation of resources among competing claims. As an example, Figure 12.1 shows the allocation of recurrent funds for one university in 1984.

Figure 12.1 Distribution of expenditure from General Funds, Macquarie University, 1984



Expenditure

Figure 12.2 shows the decline in Commonwealth expenditure on education as a proportion of Total Commonwealth Expenditure over an eight year period. As can be seen from Figure 12.2, higher education has been worst hit by the cuts in educational expenditure, despite the increase in intakes in the 1980s. A comparison of higher education with schools shows this even more dramatically in Figure 12.3.

Figure 12.2 Breakdown of Commonwealth educational expenditure over the period 1977-1984.

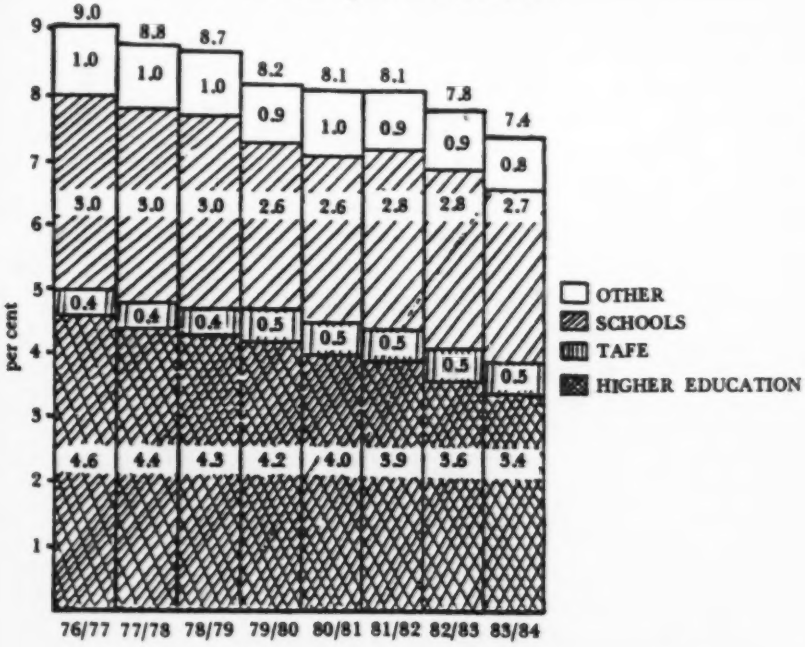


Figure 12.3 Government recurrent expenditure on schools and higher education (in constant prices) and levels of enrolment/student load expressed as indexes (1974/75 = 100).

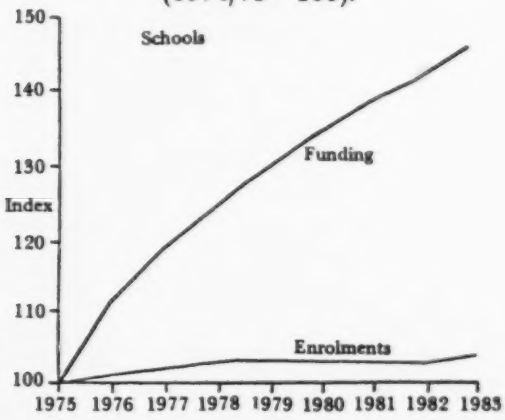
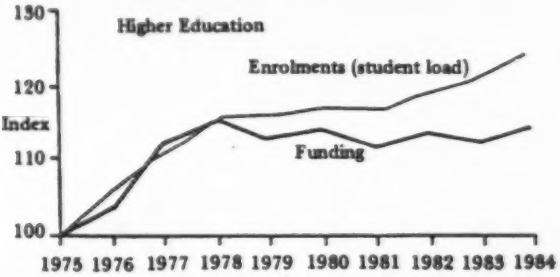


Figure 12.3 *(continued)*



The lack of growth has over the period inhibited flexibility and innovation and adversely affected the quality of education. Although institutions have reduced staff numbers to keep expenditure within the levels of their approved grants, the government has insisted that universities and CAEs do not respond to the deterioration in staffing levels by reducing student intakes. Higher education institutions are also experiencing deterioration in library services and diminished capacity to undertake normal maintenance of plant and equipment. Presently, there is no capacity within current funds to rectify any of these deficiencies.

Table 12.1 Commonwealth grants to higher education, 1979 to 1984, in December 1983 cost levels

	Year					
	1979	*1980*	*1981*	*1982*	*1983*	*1984*
	$m	*$m*	*$m*	*$m*	*$m*	*$m*
Recurrent	1,791	1,796	1,796	1,784	1,787	1,802(a)
Equipment	80	76	76	81	81	81
Capital	101	77	49	42	50	54
TOTAL	1,972	1,948	1,921	1,907	1,918	1,938

(a) Includes $10.5m for participation initiatives.

Recurrent funds levelled out after 1978 and have fluctuated since, but without any significant increase in real terms (see Table 12.1). The level of equipment grants has been the same in real terms since 1979 and virtually all of this grant is spent on replacing items of equipment which are either worn out or obsolete. Neither universities nor CAEs have been able to expand their equipment stocks to

cater adequately for increases in enrolments or changes in technology. Capital expenditure (primarily buildings) fell dramatically from $101 million in 1979 to $42 million in 1982 before increasing slightly to $54 million in 1984.

Recurrent Expenditure

Recurrent grants are those funds allocated to institutions to provide for their general teaching activities (in the case of CAEs) or teaching and research (in the case of universities). Recurrent grants account for the largest part of government support for universities and represent almost the sole source of funds for normal operating costs. Table 12.2 gives an indication of the distribution of recurrent grants as recommended for the 1985-1987 triennium.

Table 12.2 Recurrent grants recommended for higher education for the 1985-1987 triennium

Sector/Grant	*Year* *1985* $m	*1986* $m	*1987* $m
Universities			
General recurrent	1,085.775	1,092.825	1,098.125
Special research grants	15.5	15.5	15.5
Special Research Centres	5.25	5.25	5.25
Teaching hospitals	5.0	5.0	5.0
Student residences	2.5	1.3	–
Total	1,112.025	1,117.875	1,121.875
CAEs			
General recurrent	710.425	722.125	731.225
Student residences	0.8	0.4	–
Total	711.225	722.525	731.225
Intersectoral Provisions			
Programmes for Aborigines	0.8	1.5	2.0
Superannuation	15.2	19.2	22.2
Promotion of Equity	1.0	1.0	1.0
Key Centres	1.0	1.0	1.0
Emergency student assistance	1.7	3.3	5.0
Total	19.7	26.0	31.2
TOTAL	1,842.95	1,866.40	1,844.3

Of the recurrent grant, approximately 85 per cent goes to salary and other fixed costs such as cleaning, light, power, fuel, stationery and telephone consume a fair proportion of the remainder. Anything left is defined as "variable non-salary costs" and is intended to finance internal research, library grants, maintenance of equipment and purchase of scientific and other supplies. Any cut in real terms has to be effected largely through these variable non-salary costs since, with the exception of attrition of staff, the rest is committed expenditure. It follows that a relatively small cut in recurrent expenditure (say 2 per cent) is magnified many times when applied to the variable cost items.

a. Factors Affecting Recurrent Grants

1. *Student Load:* Although larger institutions tend to receive larger recurrent grants, the relationship is not linear. An institution with a relatively small student load tends to receive a larger grant per unit of student load. This is because a small instituion still has to provide a certain minimum spread of fields of study if it is to remain viable as an autonomous institution. This results in lower student/staff ratios and hence larger recurrent expenditure per unit of student load (Fox and Snell, 1983).

2. Discipline Mix: An institution offering a wider range of studies tends to be relatively expensive to fund because again it still needs to provide for a certain minimum spread of basic courses. Furthermore, science based courses such as engineering tend to be about twice as expensive as arts type courses. The cost of courses in the same discipline can also vary markedly from one institution to another. The universities' and CAEs' capacity to adapt is limited because of staff tenure, course specific resources, and so on.

3. *Student Mix:* Students from low socio-economic groups and other disadvantaged backgrounds require special support and hence extra cost.

4. *Other:* Other factors affecting recurrent costs include

- the introduction of new courses and/or programmes;
- the age, stage of development and rate of growth of an institution;

- the geographical situation and provisions for distance learning; and
- the ratio of full-time to part-time students.

b. Equity

Of the six general objectives set by government for the 1985-1987 triennium, four relate to equity. Not surprisingly, the government desires growth in those institutions which are expected to contribute most to providing increased access for young people and for disadvantaged groups in the outer metropolitan and regional areas. CTEC, however, found that "increased opportunities and greater equity can't be achieved at the low marginal funding rate provided for 1985" (CTEC, 1984).

The funding arrangements for the 1985-1987 triennium do not take into account the *additional* costs institutions must bear if students who suffer from some disadvantage are to be educated effectively. Yet, through the provision of additional funds at the marginal rate, those institutions in the outer metropolitan and regional areas which have had significant growth since 1981 have experienced substantial reductions in their *per capita* funding rate.

c. Superannuation

The majority of staff members belong to State Government or other superannuation schemes, which are not fully funded since inflation adjustments to pensions are the responsibility of the university or CAE concerned. They are based on endowment assurance policies which have proven financially inadequate. To cope, universities have had to increase the benefits with a number of supplementary schemes causing significant increases in costs, given that the superannuation costs are regarded as staff costs. The growing number of CAEs participating in superannuation schemes has added considerably to the percentage of tertiary education expenditure spent on superannuation. Finally, inconsistent government policy has not helped the situation. For example, in January 1983, a national university scheme was altered to permit CAEs to participate and to make the scheme consistent with government policy. CTEC have recommended $19.2 million for 1986 and $22.2 million for 1987 to assist universities and CAEs to meet the increase in superannuation costs (see Table 12.2).

Equipment Expenditure

The purpose of the equipment grant is to provide sufficient equipment of an adequate standard to meet all the basic teaching and research requirements of institutions. The equipment grant is vital for growing institutions to handle increases in intakes. However, a level of equipment funding is also necessary to maintain the quality of equipment stocks.

Table 12.3 Equipment grants for the university and CAE sectors, actual 1984 and recommended for 1985-1987

	Year			
	1984 $m	*1985* $m	*1986* $m	*1987* $m
Universities	55.0	55.9	55.9	55.9
CAEs	26.5	28.1	28.1	28.1
Total	81.5	84.0	84.0	84.0

As Table 12.3 shows, the level of equipment funding for universities has not significantly changed since 1984 despite the increase in enrolments. Grants for CAEs have only marginally increased. As a consequence, equipment funds have not kept pace with maintenance, let alone meet the challenge of technological advancement.

Institutions frequently report that there are inadequate funds to replace equipment which is worn out or update that which is technologically obsolete. Given rapid technological advances in computer technology, commerce and in finance systems, equipment needs have multiplied over the last decade. This makes substantial demands on equipment resources.

"The quality of institutions teaching and research programmes can only be maintained if they have the quantity and standard of equipment needed to support their programmes" (CTEC, 1984). Without the necessary technological equipment, universities and CAEs cannot be expected to make technological advances, nor co-operate with private industry on research programmes.

Finally, if universities and CAEs are to contribute further in the training of graduates in courses directly related to employment opportunities, additional funds are necessary to upgrade and update current technological equipment. Efforts to cope with the limited funds by co-operating with other tertiary institutions, the government or private industry are only partially successful. Thus, once again an inconsistency exists between the objectives set by the government and the funds provided to meet those objectives. A good example is the shift in demand by students into technology based courses, a trend encouraged by government. Yet the additional funds required to cope with the shift from cheaper, lower equipment courses to courses with a high technology component are not available, as is evident in the level of the equipment grant which is expected to remain virtually constant in real terms for the 1985-1987 triennium (see Table 12.3).

Capital Expenditure

a. *Increased Intakes:* In some outer metropolitan and regional institutions, overcrowding exists due to the marked increases in enrolments, particularly since 1982. Further expansion of facilities is therefore necessary if planned growth is to be achieved. However, firstly because of the limited amount of funds and secondly because of the unavoidable lead time involved in construction of buildings, most of the outer metropolitan and regional CAEs will continue to be overcrowded. Table 12.4 shows that the most significant increase in capital expenditure is for the CAE sector, which is expected on the basis of trends in enrolments (see Chapter Two).

Substantial new construction is necessary to cope with the growth in student numbers envisaged by the government. These needs have to be added to a backlog of existing building requirements. For example, old buildings still being used are becoming not only unsuitable but are taking a high percentage of the maintenance funds while some pose serious fire and safety risks. CTEC (1984) noted in its recommendations for the 1985-1987 triennium that the current level of capital grants implies an average life span for university buildings of about 200 years. An example of the problem of capital funding and construction time is provided by the following CTEC (1984) comment:

Table 12.4 Capital programme for higher education, actual 1984 and recommended for 1985-1987 triennium

Sector	*Year* 1984 $m	1985 $m	1986 $m	1987 $m
Universities				
Commitments	12.7	14.7	12.1	12.4
New works	2.5	3.3	6.5	4.8
Minor works	8.6	8.85	8.85	8.85
Total University	23.8	26.85	27.45	26.05
CAEs				
Commitments	15.5	23.3	20.3	18.7
New works	5.0	4.9	7.3	10.3
Minor works	9.5	9.75	9.75	9.75
Total CAEs	30.0	37.95	37.35	38.75

To take but one example, Commonwealth and State authorities are agreed on the urgent need to provide opportunities in the outer-western area of Sydney by developing a new campus of the Macarthur Institute of Higher Education at Campbelltown. Construction of the first stage of these facilities has commenced but the buildings will not be ready for occupancy until 1986. There is no current commitment to provide for increased intakes in 1986. Therefore, unless this situation changes, opportunities in the western suburbs of Sydney may have to be provided in 1986 by reducing opportunities available through other New South Wales colleges. This situation also applies to Nepean and Northern Rivers Colleges of Advanced Education.

Income

The present situation is serious enough that the Government in the Guidelines for the 1985-1987 Triennium asked CTEC to "report on ways in which the higher education sector could increase its income from other sources including increased involvement of the private sector in funding research". The breakdown of income by source for universities and CAEs is shown in Table 12.5.

Table 12.5 shows that income from non-government sources for universities in 1983 amounted to $145 million or 10 per cent of total funds. While many endowments, donations and grants are tied to specific purposes, CTEC estimated that in 1983 the total non-

government funding not tied to specific purposes amounted to between $60 and $80 million. This amounts to approximately 5 per cent of total university expenditure.

Whereas universities were able to attract $145 million in 1983 from non-government sources, the CAE sector, the major growth sector in terms of enrolments, was able to extract only $62 million. However, this represents a similar proportion of total expenditure in spite of the fact that universities typically attract more identifiable research expenditure.

Table 12.5 Income by source for universities and CAEs, 1983

Source	*Universities* Amount $m	*Universities* Proportion of total income (%)	*CAEs* Amount $m	*CAEs* Proportion of total income (%)
Commonwealth Government				
• CTEC	1,102	82	638	89
• Other	88	7	8	1
Total	1,190	89	646	90
State Government	8	1	7	1
Non-Government				
• Investments	56	4	22	3
• Endowments, donations and grants	58	4	1	0
• Other	31	2	39	5
Total – Non-Government	145	10	62	9
TOTAL INCOME	1,343	100	715	100

Even the oldest universities are dependent on government grants for up to 90 per cent of their income. In 1974, fees, the only other main source of income, accounted for only 10 per cent. Thus, universities and CAEs are finding it increasingly necessary to look to the private sector for support. The lack of new funding is creating a non-growth situation resulting in institutional stagnation. In response, institutions are being forced to try other alternatives such as restricting current expenditure through freezing vacancies and abolishing positions, encouraging early retirement schemes and cutting back on travel and conference expenditure.

Alternative Sources of Income

a. Private Funding and Research

Contracts and grants for teaching and research account for about half of the non-government income. The major source is the Australian Research Grants Scheme. Traditionally, the government has funded about 80 per cent of research and development expenditure but private industry is becoming far more important. The 1986 Report on the Australian Research Grant Scheme found that the "average grant has fallen since 1985 by 8 per cent . . . the scheme's budget allocation failed to meet the cumulative demands of inflation, incremental creep and the rising costs of maintaining high quality research". It is feared that this must affect the quality of research. However, prior to the 1984 election, the government announced a 150 per cent tax deduction for specified research and development expenditure, a strategy which could encourage the private sector to invest in research in higher education.

To cope with the decline in the real value of funding, some universities and CAEs are now establishing research and consulting companies and opening university positions such as professorships to corporate sponsorship. For example, Unisearch, the research and development company of the University of New South Wales, showed a profit of some $1 million in 1983, much of which was made available to the University. At the University of Sydney, five "chairs" are currently sponsored by commercial firms.

However, the development of commercial activity could bring academic staff into conflict with their own and the institutions' main objectives. There is also the risk of financial loss. CTEC has argued that commercial activity should not be seen as purely, or even principally, a major alternative source of income, but rather as tertiary institutions providing a service at reasonable cost (see Chapter Ten). Furthermore, there would be little incentive for industry or private individuals to fund universities and CAEs or for them to seek such funding, if the result of the donation was simply to reduce government expenditure. The danger is that the more universities rely on industry support, the more they lose their autonomy, if not their objectivity.

On the other hand, fund raising from the private sector may give an institution a greater degree of independence from political influence. It can increase community interest and have important political value at a time when tertiary education seems to rank low in government priorities. However, universities and CAEs must be careful not to become the servants of new masters. Large companies can change their minds and have no public accountability whatever. However altruistic, they are not responsible to the citizens as a whole, governments are!

b. Fees

There has been a lot of debate concerning the re-introduction of fees as an alternative source of income. Some argue that such a move would seem to contradict equity objectives of the government, especially in regard to CAEs. Others argue that the abolition of fees and the introduction of means tested allowances has not significantly changed the socio-economic mix of higher education students. Thus, it would be more equitable in this case to re-introduce a fees system for students not eligible for such allowances.

Given three circumstances, CTEC argues it is not surprising the social composition has not changed since 1974.

1. Since 1975, scholarships have been phased out, especially teacher training scholarships, and this has excluded significant numbers of lower socio-economic students.
2. The upper income limit for eligibility for student allowances has fallen by 40 per cent, sharply decreasing the percentage of students able to claim the allowances.
3. Sice the late 1970s, the "value" of higher education has fallen in the eyes of potential students.

Others argue that fees can be introduced in ways that would not discourage lower socio-economic groups, for example, by means tested fee remissions and loans schemes. But CTEC has claimed that the mere existence of fees will itself discourage participation of many students from the lower socio-economic group. Further, it would also be a mistake to re-introduce fees now given the increase in the proportion of young people completing secondary school and thus the broadening of the social composition of students qualifying for higher education.

The current arrangements for student allowances give students the incentive to spend two years in the labour force to attain independent status before entering higher education as this period qualifies one to receive the student allowance. Means testing of parents' income also seems to contradict concepts of a legal adult age of 18 years and students' perceptions of their adult status.

CTEC also questions whether significant additional revenue can be generated from fees, particularly if steps are taken to ensure that the government's equity objectives are not prejudiced. Equity considerations imply that, to avoid acting as a disincentive, fees would need to be a great deal less in real terms than those applying in the early 1970s. If this inference is correct, fee revenue today would be quite small, especially given the administrative costs of collecting the fees.

c. Other Sources of Income

Other potential sources of income include

- bequests, donations and endowments;
- patents and royalties;
- financial management;
- selling courses overseas;
- letting of accommodation; and
- hiring sport facilities.

However, the extent of income generated from such sources is likely to be relatively small, except for the first item in a few of the older, traditional institutions.

Conclusion

Institutions of higher education in England, like those in Australia, are tied to central government funding as their main source of income. In the United States, on the other hand, most of the major universities, state and private, only receive from a quarter to a half of their annual income from the federal government. However, in some respects the autonomy of both the state and private universities in the United States has been threatened to a greater extent than in England.

In England, the University Grants Committee does not prescribe the distribution of its grant within each university (although in a small number of cases it has provided ear-maked grants). In the United States, the federal government only makes grants and contracts for specifically stipulated activities (for example, for military purposes). The recipients of federal grants are then viewed as contractors.

English universities remain entirely autonomous in their decisions on who is appointed to teach in them and also in the determination of the subject matter of their courses of study and the conditions of admission. Equity issues in the United States have forced the federal government into the universities. A uniform quantitative criterion is used for the allocation of funds to state universities aimed at eliminating the distinction between the great and famous old universities and, for example, the agricultural or mechanical colleges. These colleges now enjoy the same status as universities. Furthermore, the federal government sets conditions that universities must employ certain ambiguously defined proportions of blacks, women and specified ethnic groups on their academic and administrative staffs (Daalder and Shils, 1982).

Australia has adopted a mix of the funding principles used both in England and in the United States and, although they retain a good deal of their autonomy, "the area around them resounds with rumbles of invasion" (Shils, 1982).

Chapter Thirteen

ALLOCATION OF RESOURCES IN HIGHER EDUCATION

Denis Davis

Introduction

Responses to new demands are nearly always subject to funding levels and their management. New initiatives inevitably involve new sources of funding or at least a reordering of priorities among existing demands. In a democratic society, and within the context of social welfare spending constraints of the 1980s, public policy makers and funding managers need to prepare sound arguments to legitimate their claims for the allocation of resources. This chapter examines strategies that can be used in this process with particular reference to resource allocation in higher education in Australia.

Tightening Financial Constraints

Educational sectors in most OECD countries, including Australia, have experienced various forms of financial constraint since the mid-1970s. Reluctance to increase spending on education needs to be seen in terms of the greater growth of spending on social welfare generally relative to the growth of national Gross Domestic Products. In the heyday of educational expenditure in the late 1960s and early 1970s, the conventional wisdom saw educational (along with health) expenditures as both economically and socially beneficial. However, the accompanying growth to GDP of the public sector to finance such expenditures has placed strains on economic services and curtailed flexibility in responding to new needs, thus calling this conventional wisdom into question.

Table 13.1 shows the percentage of GDP spent by various OECD countries on social welfare. Although the countries vary considerably in the relative amounts spent on social welfare, the pattern of increase over the period 1960 to 1981 is very consistent. Overall in these countries, the proportion of GDP spent on social welfare has almost doubled (from 13.1 to 25.6 per cent) over the two decades.

Table 13.1 Social expenditure in selected OECD countries, 1960-1981

Country	*Percentage of Gross Domestic Product* Year	
	1960	*1981*
Australia	10.2	18.8
Germany (West)	20.5	31.5
Japan	8.0	17.5
Sweden	15.4	33.4
United Kingdom	13.9	23.7
United States	10.9	20.8
All OECD Countries	13.1	25.6

Source: OECD (1985) *Social Expenditure 1960-1990*, Paris.

Table 13.2 Proportions of social expenditure by sector in selected OECD countries, 1960-1981

Country	*Education*		*Health*		*Sector Pensions*		*Unemployment Compensation*	
	1960	*1981*	*1960*	*1981*	*1960*	*1981*	*1960*	*1981*
Australia	27.5	30.9	23.5	25.0	33.3	29.8	1.0	4.3
Germany (West)	11.7	16.5	15.1	20.6	47.8	39.7	0.5	4.4
Japan	50.0	28.6	16.3	26.9	17.5	27.4	3.8	2.3
Sweden	29.9	19.8	22.1	26.6	28.6	35.3	1.3	1.5
United Kingdom	26.6	24.5	24.5	22.8	29.5	31.2	1.4	5.9
United States	33.0	26.4	11.9	20.2	38.5	35.6	5.5	2.4
All OECD Countries	27.3	22.7	19.0	22.7	32.0	33.8	2.6	4.0

Source: OECD (1985) *Social Expenditure 1960-1990*, Paris.

It is also insightful to examine the allocation of social welfare resources to various sectors and to note changes over a similar period. Thus Table 13.2 shows that by 1981, Australia was spending 30.9 per cent of social expenditure on education, a figure higher than that for any other country in the Table. Over the period shown, Japan has drastically reduced the proportion of expenditure on education while Sweden and the United States also showed significant decline.

However, it might be noted that there is far more consistency in the proportions allocated to all sectors (including education) across countries in 1981 than was the case in 1960. That is, the general pattern is for countries with very high or very low allocations, whether for education, health, pensions or unemployment benefit, to regress towards the mean.

Extrapolating from this trend, one would infer that the proportion of social expenditure directed to education in Australia in the future could be expected to fall, since the 1981 level is relatively high. Indeed, this has already occurred since data produced by the Economic Planning and Advisory Council (EPAC) (1986) show that, relative to growth in GDP, whereas education expenditure increased significantly in the ten years prior to 1974-1975, it decreased in the ten years following this date. Nevertheless, in order to keep its current level, education will need to justify its current and future levels of public spending allocation, not only in competition with social welfare spending generally, but also against the increasing demands of public spending on economic services, defence, and, significantly in recent years, servicing of the public debt.

The picture portrayed by the above analysis is one of formidable competition facing those arguing for higher education spending. Expenditure on higher education makes up about 20 per cent of all governments' expenditure on education. In the 1986-1987 Budget, the allocation to higher education was $1.4 billion, compared with $4.1 billion for unemployment and sickness benefit and $7.0 billion on interest payments. What strategies can be used, then, to make a case for a fair share of resources for higher education and what strategies can be used to make the most effective use of the allocation? These are matters discussed in the remainder of this chapter.

The Composition and Control of Social Welfare Expenditure

Before discussing strategies for arguing the case for a fair share of resources for education generally or higher education in particular, it is wise to examine the causes of growth of expenditure in the principal social welfare areas. To assist in this kind of analysis, OECD has used an accounting technique in which changes in social welfare expenditure are attributed to three broad factors. Other things being equal, expenditure on a given social welfare will vary with (1) rises or

falls in the level of the population; (2) the percentage of the population eligible to be covered by the welfare; and (3) the average amount of the welfare spent on each recipient. These headings are not simply categorical, but encompass an hierarchical order in the degree of discretionary control that governments can bring to bear on them. Thus, policies on migration and campaigns on birth control not withstanding, governments generally have least control over the size of the population. They have some control over the coverage of the population but changes to the rules of eligibility are usually politically sensitive. Finally, they have most control over the third factor, the per unit level of expenditure.

Consider now this analysis applied to three areas competing for social welfare resources – pensions, unemployment benefits and education. Over the past 20 years in Australia, growth in the relative share of age pensions to GDP was primarily due to increasing the coverage by governments. An increase in the proportion of aged people was a less important factor while the level of real unit expenditure actually fell (EPAC, 1986). Extrapolating from the European experience of a rapidly ageing population and noting Australia's trend in this direction, it can be expected that changes to the aged population will be more significant in the future.

In Australia, huge increases in spending on unemployment have been mainly due to the large rise in unemployment rates and to the increase in the proportion of unemployed actually receiving benefits. In Australia, payment of unemployment benefit is automatic and not contributory, as it is in most other OECD countries. Hence the level of government expenditure is fairly much out of government control, unless the government undertakes the politically difficult exercise of changing the rules of eligibility.

Explanations for changes in education expenditure growth over the last two decades tend to be more complex. In the first place, the rate and direction of change have varied. The percentage of GDP spent on education was still higher at the end of the period than at the beginning, but it achieved its greatest rate of growth between 1968-1969 and 1974-1975 and then tended to decline. The causes of change also varied. A relative drop in the school-age population since the beginning of the 1970s has partly offset increases in expenditure due to increasing retention rates in upper secondary and

tertiary education and to rising expenditure per unit. The impact of rising expenditure per head was mainly felt in the period 1968-1969 to 1974-1975, and of increasing retention rates in the later periods. Government austerity cuts since 1974-1975 and some decline in the school-age population have helped the government to finance the extra costs of increasing retention.

From the above analysis, it can be inferred that the task of those arguing the case for education funding is even more difficult than might have otherwise seemed the case. The government's control over expenditure on pensions has been reasonable but is threatened by further ageing of the population. Control over unemployment benefits is suspect unless government is prepared to change the rules of entitlement or there is a job recovery. Assuming neither event and given a situation of continued tight funding, it is likely that education funding will come under further pressure. One of the tasks of educational advocates, however, will be to argue that this should not be the expectation and that other strategies warrant exploration.

The Twofold Funding Strategy

It is useful to distinguish between the external and internal dimensions of strategies used to argue the case for funding any particular programme or sector. At the external level, the aim is to secure as much funding as possible for the programme, in competition with other programmes. Internally, the aim is to maximize output from a programme and to make it as compatible as possible with the desires of those operating the programme and those funding it. The strategies employed within the internal dimension divide between those trying to reduce the number of tasks to a level determined by the available funds, and those trying to make the most effective use of funds, given the tasks to be accomplished. Strategies looking for cost-effectiveness can be further divided into those that allocate resources to different alternatives and those that directly seek to cut wastage.

The External Dimension

In the external dimension, higher education advocates have used at least three broad types of strategies in trying to attract the desired level of funding. Firstly, arguments have been advanced to

increase higher education's share of GDP and/or public sector funding for economic, social or cultural reasons. Secondly, a case has been made for increasing the contribution of the private sector to higher education. Thirdly, there has been a case for 'commercialising' the higher education product.

The first strategy, when argued as an economic case, assumes the human capital argument of 'investing in people' as a national productive asset. This argument underlies several cases for funding presented in higher education reports in the 1960s, that a lack of professional skills in the workforce led to underutilization of human and physical resources, and that therefore there was a need for the expansion of professional training facilities for education, engineering, science, accounting, etc. The Martin Report (1964) on Australian tertiary education is an example. The argument, based on specific labour market requirements, lost some credibility in the 1970s, however, with rises in graduate unemployment. This was most marked in some of the biggest output areas, such as graduate teachers. Nevertheless, as shortages of professional people occur, the labour requirements argument keeps re-emerging, as it now does, for example, in engineering in Sweden and in nursing in Australia.

Another version of the economic argument is that of raising the community's threshold level of education, so that the community can be more adaptive and innovative in responding to technological demands. The weakness for higher education in this argument, however, is that few countries perceive this threshold at the level of higher education, although any rise at the secondary level can have a flow-on effect of increasing demand for post-school education.

The social argument is based on theories associating individual income levels with levels of individual investment. In the 1960s, the social argument had the advantage of being considered perfectly compatible with the economic argument given above. It was the social face of the human capitalist theory. "We shall educate ourselves out of poverty" was the slogan adopted by Lyndon Johnson for America's anti-poverty campaign, launched in the 1960s. Unfortunately, it lost a considerable amount of credibility in the 1970s when some critics (for example, Jencks (1972)) became more vociferous in pointing out that, at best, educational levels were associated with no more than half of income variation. Other critics (for

example, Berg (1971)) attacked the notion that credentials were much more than a screen for sorting people into higher and lower level income jobs.

Although neither the economic nor the social faces of the human capital argument are as convincing as they were in the 1960s and early 1970s, they still form an important plank in promoting those government policies in education based upon them. But advocates for higher education cannot advance them as part of public 'consensus' for they know and expect that such arguments will be refuted with counter-arguments. For example, those who refute human capital theory will argue that, if you want to equalise income, the more effective way is through direct provision of material resources rather than indirectly through education. Even some who subscribe to a form of human capital theory will argue that areas such as health demand investment and that education should not enjoy a monopoly of this argument or of the available funds.

The second set of external strategies involves funding from the private sector. The level of private sector support to higher education, either through endowments or fees, varies considerably by country. Substantial support from private sources is received by higher education in the U.S.A. and Japan, but far less where significant fees are not charged, as in Sweden, West Germany, the United Kingdom and Australia. Within the countries which do not provide fees, there is still considerable variation in the degree of student support, with the United Kingdom tending to provide fairly universal grants, Australia to provide grants under stringent means tests (see Chapter Six), and Sweden and West Germany offering loans rather than grants.

Current constraints on public sector funding are causing nations, in general, to require more funding from the private sector. In the U.S.A., both state and private universities are substantially raising fees. Moreover, with state universities actively seeking private endowments and several private universities being subsidised by state governments, the funding distinctions between state and private universities are becoming less clearcut. In the United Kingdom, since the beginning of the 1970s, and more recently in Australia, significant fees have been levied on overseas students. The continuing debate on fees in Australia has been discussed earlier in Chapter Six.

In countries committed to equality of opportunity for disadvantaged groups, the introduction of fees or raising of fees can be socially undesirable if such groups are not simultaneously given financial support. Such support may need to go beyond exemption from fees since income foregone and not fees makes up the greater part of the cost of education. Thus, Chapter Six noted that, in Australia, the abolition of fees for higher education in 1974 did not lead to any significant increase of representation from poorer income families.

Higher education has often been supported by business and industry although in Australia, private employers have not tended to provide general support funding to a level common in some other countries. The third strategy, the 'commercialisation' of the product of higher education, is rather different in that the higher education sector takes an entrepreneurial role and actively seeks to sell its teaching, research and consultancy services. Again, Australia has tended to lag behind other countries in the commercialisation of higher education but university or college-based commercial research and consultancy firms have grown in recent years. Government has encouraged this form of activity and the seeking of research funds by academics from non-public sources (see Chapter Ten).

Some argue that the increasing commercialisation of higher education in recent years has been a positive outcome, that it makes higher education more efficient, and that it might be a good idea to remove progressively direct public funding. However, this radical extension of commercialisation does not enjoy widespread support within higher education and few countries at the moment would be likely to support it. Australia is currently engaged in a spirited debate on the possible introduction of a privately funded sector (see Chapter Six) whereas, until now, higher education has been provided almost totally within public colleges and universities.

The Internal Dimension

Internally, higher education needs in the first place to be managed by rationing what is attempted in accordance with funds available – a case of 'cutting the suit to fit the cloth'. One common technique here is the imposition of quotas, particularly in highly demand courses such as Medicine or Law. Most often the quotas are achieved through academic screening, although this can be a socially

undesirable form of screening in countries committed to helping disadvantaged groups. Academic screening is not socially undesirable if it is truly meritocratic, based only on natural ability and effort. However, no national system of academic screening seems to be able to avoid at least some discrimination against the educationally, and therefore most likely socially, disadvantaged.

If a system cannot reduce its demand to the level of resources available, it simply *fails* to meet its demand. In the right context, higher education authorities might use this *failure* as a strategy to embarrass governments and therefore to secure more funds. However, failure to meet demand as a strategy could rebound on providers by resulting in accusations of incompetence and calls for greater efficiency. Nevertheless, failure to supply sufficient overall places in higher education, whether or not used as a strategy to influence government on funding levels, is what has been happening in recent years in Australia where some thousands of qualified students completing secondary schooling have not been able to secure places in higher education (see Chapter Two).

Secondly, higher education needs to make cost-effective use of available resources by controlling the levels of unit costs. Strategies here can be differentiated into those concerned with the effective distribution of resources and those concerned with minimizing unit costs through controlling inefficiencies and reducing wastage. That is, average unit costs can be reduced by restricting enrolments in expensive fields (that is, moving students to lower cost educational fields) and/or by reducing the average cost of each unit in all fields.

Nearly all countries use the first method of control, namely controlling average costs through allocation of students to lower-cost courses and institutions. More subtle than overt coercion, the method operates primarily through decisions over the number of places in particular institutions and faculties that will be publicly funded. The academic screening process as described above will then do the rest.

In the 1960s in Australia, this process was applied in the decision to accommodate the growing demand for higher education by developing an alternative to universities – the less expensive Colleges of Advanced Education (see Chapter One). Publicly, the new CAE sector was legitimised on the grounds of its relevance to the needs of

industry and flexibility to the educational background of students, but nevertheless its development was an important means of lowering the average cost of higher education.

A similar strategy applies within institutions where average costs are kept down by severely restricting the expansion of expersive professional-scientific faculties, such as Medicine, frequently by recourse to data on labour market requirements (Karmel, 1973). In Australia, the inclusion of the more expensive faculties in universities established since the mid-1960s has been the exception rather than the rule.

In the second area of cost-effectiveness control, namely, through savings on unit costs, a diversity of techniques can be identified. Some of the more significant used in Australia in recent years include minimisation of student drop-out rates (see Chapter Nine), introduction of less intensive teaching procedures (such as more use of equipment with wider audiences), greater use of physical plant and other facilities (such as a higher utilisation/capacity ratio per day, per week, and per year), and expansion of distance education (see Chapter Three). Unit savings can also be made by expansion of the scale of operation, a strategy underlying the merger of smaller institutions into larger administrative and functional units. A similar policy has been applied to some university research funding with a tendency for government to fund larger projects rather than smaller ones and to set up just a few large-scale centres of excellence (see Chapter Ten).

Finally, in spite of these strategies, every system still experiences some cost control problems and it is worth noting some limitations. Firstly, in respect of student management strategies, political resistance can result if a significant number of students do not accept the functional difference of the lower unit cost institution and believe they are being provided only with the 'second best'. Secondly, allocation of students to lower cost institutions assumes that their programmes will remain at lower cost. Australia is currently witnessing challenges to the binary system of universities and CAEs through a desire of some CAEs to achieve university status, thus changing the functions of the colleges from their original purposes (Davis and Hermann, 1978). Some of the higher cost features of universities have already been achieved in CAEs (for example, study leave provi-

sions for staff) and others are being sought (for example, time for staff to do research). A third difficulty for higher education in Australia to control costs stems from an industrial policy of 'comparative wage justice'. Under this policy, it is not possible to maintain cost distinctions between staff in different institutions or in different disciplines, irrespective of the varying external market pressures for their services. As noted in Chapter Eleven, salary costs comprise the major portion of recurrent costs so flexibility here is very limited.

Application of any of the above cost controls also depends on the ideological commitment of the decision-makers. There is always a danger that a cost-efficient bureaucrat or a politician seeking to make a political point will implement changes which could result in loss of quality or less equity. For example, amalgamations of different institutions can result in cost saving (Ramsay, 1986). However, such amalgamations, to be successful, may also require some staff development or retraining and some institutional reorganization. Policy makers do not always allow for such costs. Most importantly, any control measures undertaken should include a component to collect data on the changes so that adequate evaluation and monitoring can occur.

Chapter Fourteen

HIGHER EDUCATION POLICY AND THE RELATIONSHIPS AMONG EQUITY, QUALITY AND COST

Alan Lindsay and Ruth Neumann

Introduction

Policy makers in higher education and government have been grappling, with increasing difficulty over recent years, with the problems and issues relating to equity, quality and cost. As a result, broad policies have been formulated and specific programmes implemented with a view to reducing inequities and improving quality while restraining cost. This concluding chapter of the report will review some key policies and programmes instigated over the past five to ten years.

The major data sources for this review are the analysis of the previous chapters, government policy documents and research on their implementation. In addition, interviews with ten academics and public servants involved in policy making were conducted during a major conference on *Productivity in Tertiary Education: Issues for Excellence and Equity* (see Introduction).

For this review, the policies and programmes intended to influence equity, quality or cost factors will be grouped under four headings: structural, administrative, instructional and resource. While structural initiatives relate to broad organisational changes, administrative initiatives relate to changes which operate within existing structures. Instructional initiatives refer to changes intended to influence teaching and learning, and resource initiatives relate to changes in resource acquisition and use. Each type of initiative will be discussed in turn and then their effects on equity, quality and cost will be discussed in the concluding section.

Structural Initiatives

The structure of Australian tertiary education has not developed in a systematic fashion. The binary system of higher educa-

tion, comprising universities and CAEs, which has now become part of a broader tripartite system with the inclusion of Technical and Further Education (TAFE), has evolved through a series of compromises and limited changes. The complex division of administrative and financial powers between the Commonwealth and the States and the differing degrees of autonomy for the institutions has precluded comprehensive long term planning and effective control. The prospects for major structural change are limited by this wide diffusion of power.

The major structural feature of the higher education system is the division into universities and colleges. However, the CAEs have not developed a sufficiently distinctive character for the system to be stable and the broadening of roles in each of the sectors has led to a blurring of sectoral boundaries and increasing overlap among courses. Despite this overlap, a well articulated pattern of courses has not been developed to a sufficient stage to allow automatic upgrading or student transfer across sectoral boundaries. The CAEs were originally designed to cater for sub-degree level teaching and to take over the provision of part-time education. However, the universities have continued their involvement in part-time study and the CAEs are now providing more than half their programmes at bachelors degree level or above. The limited higher degree teaching and research activities of CAEs constitute the only remaining distinctions in the form of activity between the two types of institutions, and even here some of the larger colleges (and notably the institutes of technology) have sought to increase their activities to include PhD training and extensive applied research.

The most recent major structural change in the higher education system occurred at the end of the long period of expansion when the Commonwealth government forced amalgamations among a large number of CAEs. Some CAEs merged with adjacent universities while others formed multi-campus institutions. Despite the sharp reduction in the number of colleges, the fundamental problems with the binary system continue.

In the future it is likely that these sectoral divisions will come under increasing pressure. Cross-sectoral arrangements and the blurring of boundaries will continue. Over the longer term, new forms of institution and a new stratification may emerge. Multi-

level institutions and feeder one- or two-year colleges linked with comprehensive institutions are likely new variants. The existing TAFE sector may well provide the basis for initiatives of this type. New types of higher education institution may also emerge from the clash of the Participation and Equity Policy, which has encouraged an upsurge in demand, with that of economic stringency which has reduced the Commonwealth's ability to fund additional places. Not being able to resolve this tension, the Commonwealth government has permitted initiatives in private provision of higher education and encouraged inputs from private sources into existing institutions. Beyond the possibilities of existing institutions providing full cost places for overseas students, private higher education institutions have been proposed. These moves towards privatisation have caused deep divisions within the higher education system and the broader community.

The Commonwealth's accumulation of power is also being eroded by recent State initiatives in funding extra student places and proposals to upgrade several CAEs to university status. While the current balance of power in higher education between the Commonwealth and the State is unlikely to change substantially, these initiatives have acted as a counter-balance to the accumulation of power by the Commonwealth and its exercise of more direct control of higher education institutions through its executive arm, the Commonwealth Tertiary Education Commission (CTEC).

Administrative Initiatives

The major administrative initiative by the Commonwealth government in recent years has been the emphasis on participation and equity. Additional student places have been made available to meet the needs of particular disadvantaged groups. These places have been funded at marginal cost rather than at average cost, so that while this policy is consistent with both equity and efficiency goals, it has placed a substantial additional burden on institutions and staff. Associated with this policy initiative has been increased priority for entry by young people at the expense of mature age applicants who had previously been the fastest growing group of participants after the abolition of fees in 1974.

Under the continuing influence of the government's participation and equity policy, demand for higher education is likely to grow

further although there are divergent views on the extent of future demand. The effects of likely flow-on from the greater proportions of school students completing Year 12 in recent years is difficult to predict since the retention rate has increased most in states with less academically-oriented secondary programmes. Currently, government agencies appear to have little interest in estimating longer term demand in the face of more pressing short term problems. If there is a sustained upsurge in demand, opinions vary on whether it will have to be met from within the existing funding base by reducing unit costs or streamlining the system structure, or whether governments will provide sufficient funding to maintain current levels of real resources per student. Until recently the reintroduction of fees was generally regarded as a less likely solution than a return to higher education funding by the States in the form of supplementary grants, but with the introduction of a $250 fee as an "administrative charge" in 1987, further attempts to shift the cost burden from government to students must be regarded as probable.

Another major administrative initiative of the Commonwealth has been its attempt to increase higher education's utility in pursuing economic goals. In line with the government's broad economic policy, higher education institutions have been encouraged to form closer links with business and industry, both through increasing the employment relevance of their courses and through increased emphasis on applied research. The calls for closer links with business have received widespread suport but questions have been raised about the desirability of university courses becoming over-utilitarian and the extent to which basic research and the university's role as critic of the society may be jeopardised by too close an orientation to the needs of the economy.

Higher education institutions are not well placed to meet additional demands. The expansion in numbers coupled with marginal-cost funding and the rigidities of staffing patterns are forestalling adequate responses to the emerging challenges. The state of the academic labour market is of particular concern. The initiatives proposed all have limited scope for effect. The possibilities for creating new positions are severely constrained by the shortage of funds. With the phasing out of many part-time and temporary full-time positions over the last decade, a high proportion of academic staff now have permanent tenure in spite of policies to reduce this

proportion. As well as blocking entry for the next generation of academic staff, the high level of tenure makes it difficult to adjust staffing patterns as student demand shifts from one field to another. In the short term, current proposals to improve the staffing pattern will at best have a marginal influence. These include: more fixed term staff, loner periods of probation, staff performance assessments, merit loadings and demand loadings for positions in short supply and early retirement in over-staffed fields.

Instructional Initiatives

The government's initiatives on increased participation and cost management have resulted in declining levels of resources per student and increasing student-staff ratios. While greater economies of scale and reductions in unnecessary duplication have moderated the effects of these policies on standards, there has nevertheless been an inevitable decline in the quality of teaching and the services provided to students. Programme flexibility and the range of choices for students have been decreasing. Courses involving the use of expensive equipment or extensive library facilities have been hardest hit as institutions have been unable to maintain standards in these areas.

Because of the economic situation and the low political importance of quality issues, improvements in quality are low on the government's agenda. The serious deterioration in equipment, buildings and staffing is certain to continue unless there is a major change in government policy. An example of the deterioration in standards is the decline in the support for staff development. Despite the recognition and priority that staff development needs have been given in policy statements, the institutional teaching-learning units have been subject to review and, in some cases, closure.

There are some signs of a growing recognition that further reductions in resources will result in reductions in quality rather than increased efficiency, although the view that there is still scope for increasing productivity through lower programme costs and increases in student-staff ratios still has strong support in some circles. It has been argued that one future avenue for reducing costs while maintaining quality may be through the application of emerging microcomputer and communications technology, although a recent review by CTEC on efficiency and effectiveness (CTEC, 1986) expressed

some scepticism about the potential of new technology to achieve these goals. At least in the area of distance teaching, some innovations using new technology have shown promise. Australia's leadership in the development of distance education could provide a solid base for expanded provision through cost efficient programmes. Another avenue for reducing costs is changing the balance between teaching and research. More particularly, the assumption that all academics should be involved in both teaching and research is being questioned. Proposals for much greater concentration of research into Special Research Centres would provide the means of reducing the total expenditure on research as well as reducing the costs of teaching through the isolation of the majority of academic staff from major research projects. Whatever initiatives are pursued, universities will be under continuing pressure to justify their effectiveness and efficiency through internal review processes.

Resource Initiatives

Higher education's share of GDP has declined from 1.40 per cent in 1974-5 to 1.02 per cent in 1984-5 (Hudson, 1985). Prospects for obtaining more funds from governments appear to be limited and institutions are increasingly turning to business and industry for support in both teaching and research. Most institutions have moved towards establishing commercial companies to market their research and consulting expertise. Many CAEs are attempting to expand their research effort and the success of these efforts is likely to depend upon their ability to attract a high level of non-government financial support.

While encouraging institutions to develop alternative funding sources through links with business and industry and through the marketing of courses, the government's inroads into institutional autonomy have significantly reduced institutional control over their own affairs and their ability to pursue such initiatives. For example, the complex and internally inconsistent Commonwealth guidelines on such matters as overseas student charges, the marketing of full cost places, and the marketing of continuing education have hampered attempts by institutions to pursue the goals set. At the same time, significant additional impositions have been placed on institutions in the areas of equal employment opportunity, freedom

of information and superannuation provision without corresponding recognition by the government of the costs involved.

The decline in real resources for teaching and for research has in itself constrained management options in higher education institutions. The Commonwealth's assumption of control has fostered institutional dependence and administrative paralysis. Institutional administrators are continually struggling with short term crises brought about by conflicting and ever-changing government directives. The near total dependence on Commonwealth funds, hailed as the start of a new era of stability in 1974, has become a straitjacket in the 1980s.

Conclusion

With its inheritance of the British university model, the Australian higher education system has developed over the last century with quality as a central concern. The resources for the sustained pursuit of excellence first became available to Australian universities following the Murray Report (1957) and during the economic boom of the 1960s. The goal of equality of opportunity in education has always received widespread support in the Australian community and in political party platforms in keeping with the broad egalitarian tradition in Australian culture. During the 1960s the rapid growth in social demand for higher education brought the notions of quality and equity into conflict. The compromise solution derived from the Martin Report (1964) was the development of the non-university sector of higher education, comprising colleges of advanced education. Until the mid 70s, with the rapid growth of the system being underpinned by the continuing economic affluence, concern for both quality and equity could be sustained. For example, over the twenty-year period from 1955, student numbers in higher education increased almost fivefold. Over this period the universities also developed extensive postgraduate research degree programmes and a research infrastructure which brought new levels of international recognition for Australian scholarship. However, in its education policy, the major preoccupation of successive Commonwealth governments since 1975 has been reducing the cost of higher education. More recently the Labour Government has sought to re-emphasise its concern for equality of opportunity by adopting a theme of Participation and Equity. The result of the increase in

student numbers coupled with the declining resource levels has been the erosion of standards. While efficiency measures have aided the maintenance of quality in some areas, others have suffered quite severely. For example, the long term viability of the university research system is currently threatened as a consequence of the widespread obsolescence of equipment and facilities.

At the present time, government initiatives are being directed towards achieving a satisfactory compromise between the conflicting demands imposed by equity, quality and cost goals. The most far-reaching initiative that could be taken by the Commonwealth would be a structural one involving the dismantling of the binary system and the introduction of new forms of tertiary institution. This would result in new variants within the current stratification. The upgrading of CAEs to universities, the establishment of new multi-level tertiary institutions and the cooption of TAFE colleges as mainstream feeder institutions would appear to be the most likely initiatives of this type. Any restructuring of the system would probably involve only the redistribution of resources within constant total funding, so that increasing resources at one level would necessitate reduction in others. Existing institutions would thus be likely to take differing views on the desirability of such proposed changes according to their estimation of its impact on their own status and funding. While vested interests and funding constraints militate against structural change, the attractiveness of such apparently active and decisive policies to governments should not be underestimated.

Regardless of any structural change, the continuing emphasis on effectiveness and efficiency will mean that institutions will need to continue maintaining a tight control of programme costs and to seek actively alternative sources of funding. Trade-offs among equity, quality and cost considerations appear to be inevitable. For example, while increasing the number of students without also increasing funding jeopardises quality, the substitution of student fees for government finance to limit cost increases would jeopardise equity. Other compromises will also be necessary. The mutual benefits for economic growth of closer links between higher education and business are clear but there are also dangers that an overtly utilitarian and short term notion of relevance may threaten both quality and equity concerns. To maintain quality in the face of in-

creasing student-staff ratios, institutions will need to pursue a number of initiatives in their programmes and teaching methods, including reductions in the duplication of courses, the application of educational technology, and greater use of staff review and development programmes. The problems of the academic labour market are likely to be the most intractable for policy makers, as the problems are pervasive and the feasible options restricted.

Institutions of higher education have been increasingly constrained by direct and close government control. There is now limited scope for greater economy of resource use and little institutional discretion over the use of funds. The government's goal of a greater market orientation by higher education will only be feasible if the institutions are allowed sufficient control over the use of the funds granted to them to react rapidly to diverse and transient opportunities. A positive feature of the effectiveness and efficiency review (CTEC, 1986) is the recommendation to allow institutions greater flexibility within the staff salary and promotion structure to recognise and reward excellence. There is a pressing need for institutions to develop review and decision making processes that will allow close control of programme costs and the innovative use of resources. In the pursuit of cost reduction, across-the-board cuts could well be the most damaging to both quality and equity. The impact on both could be lessened by more selective application of resource cuts, and both co-ordinating agencies and institutions need to develop better mechanisms for this task.

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